Supporting Data FY 1997 Budget Estimate Submitted to Congress - March 1996

DESCRIPTIVE SUMMARIES OF THE



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RESEARCH, DEVELOPMENT, TEST AND EVALUATION Army Appropriation, Budget Activities 4 and 5

OFFICE OF THE SECRETARY OF THE ARMY (FINANCIAL MANAGEMENT and COMPTROLLER) **DEPARTMENT OF THE ARMY**

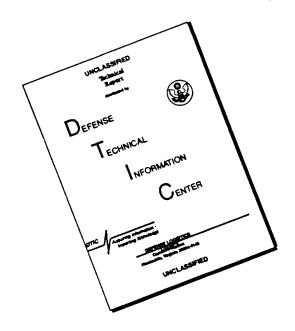
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VOLUME II

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DESCRIPTIVE SUMMARIES FOR PROGRAM ELEMENTS RESEARCH, DEVELOPMENT, TEST AND **EVALUATION, ARMY** OF THE FY 1997

VOLUME II Budget Activities 4 and 5

Office of the Assistant Secretary of the Army (Financial Management and Comptroller) Department of the Army

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FY 1997 RDT&E, ARMY PROGRAM ELEMENT DESCRIPTIVE SUMMARIES

INTRODUCTION AND EXPLANATION OF CONTENTS

- Development, Test and Evaluation program. The Descriptive Summaries are comprised of R-2 (Budget Item Justification Sheet) 1. General. This section has been prepared for the purpose of providing information concerning the Army Research, and R-3 (RDT&E Program Element/Project Cost Breakdown) Exhibits which provide narrative information on all RDT&E program elements and projects for the FY 1995, 1996, 1997 time period.
- 2. Relationship of the FY 1997 Budget Submission to the FY 1996 Budget submitted to Congress. This paragraph provides a list of program elements restructured, transitioned, or established to provide specific program identification.
- A. Program Element Restructures. Explanations for these changes can be found in the narrative sections of the Program Element R-2/R-3 Exhibits.

OLD PE/PROJECT	NEW PROJECT TITLE	NEW PE/PROJECT
0601104A/BH50, BH53, BH55	Communications Research	0601102A/AH48 0602618A/AH75
	Countermine Technology	0602712A/AH24
0603001A/DXXA, 0603710A/DK70,	Force XXI Soldier	0603001A/DJ50
0603019A/DB94	Tractor Dump	0203735A/DC64
0603734A/DT08, 0602784A/A855 & AT42,	Rapid Battlefield Visualization	0603734A/AT12
and 0602782A/A779 0603645A/D409 & DB88	Artillery Systems Dem/Val	0603854A/D505

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A. Program Element Restructures (Continued)

PE/PROJECT	0708045A/DE25 0604854A/D2KT 0604854A/D503 0604760A/DC77 0604760A/DC77 0603150A/DC86 0603856A/D389 0604760A/DC74 0604817A/D901 0605801A/MM58 0605801A/M881
NEW PROJECT TITLE	Industrial Preparedness Man Tech AFAS Operational Test CRUSADER - ED* Interactive Simulaton Synthetic Theater of War Gobal Command and Control System SCAMP Block II Developmental Simulation Technology All Services Cbt Ident Eval Team (ASCIET) Soldier Systems Command Command Headquarters - MRDC SMART-T Operational Test
OLD PE/PROJECT	0603771A/DE20 0604645A/D2KT 0604645A/D417 & D418 0604715A/DC91 0604759A/DC55 0203740A/DC49 0303142A/D386 0604817A/D482 0605801A/MM43 0605898A/MM03

Applicable portions of PE 0605896A, Base Operations - RDT&E, "J" Operation of Utilities and "M" Other Engineering, were restructured to a new PE 0605879A, Real Property Services (RPS).

* CRUSADER was previously known as Advanced Field Artillery System(AFAS) and Future Armored Resupply Vehicle (FARV).





B. FY 1997 Developmental Transitions.

TO	0603313A/D550
PE/PROJECT	0604710A/DL74
PROJECT TITLE	 Counter Active Protection Long Range Advanced Scout Surv Sys (LRAS3)
FROM	0602303A/A213
PE/PROJECT	0603774A/D131

C. Establishment of New FY 1997 Program Elements/Projects. There are no major system new starts. Minor new grams. Ĭ. I.

initiatives for FY 1997 are shown below with asterisks. The remaining programs listed are outyear initiatives beyond FY were previously funded from other Defense appropriations. The Tractor programs are initiatives moved from other programs.	or system new starts. Furnor tyear initiatives beyond FY res moved from other progr
TITLE	PE/PROJECT
Tractor Zinc	0602786A/AC60
Tractor Quake	0602786A/AC61
Tractor Union	0603005A/DC62
2.75" Anti-Air Techology Demonstration*	0603313A/D549
Tractor Quake	0603710A/DC63
Intelligent Support to Force XXI*	0305123A/DH12
Tactical Unmanned Ground Vehicle (TUG-V)	0604641A/DE47
Integrated Broadcast System*	0604739A/D702
Non-Lethal Programs*	0604802A/D712
Firefinder Preplanned Product Improvement (P3I)*	0604823A/DL85
ATCAS	0605854A/D509
Pyrotechnic Reliability and Safety*	0605805A/D296
Joint Aerostat Program Office	0102419A/DE55
Joint Tactical Ground Station (JTAGS)*	0208053A/M635
Bradley A3 IOTE*	0203735A/D2TT
Abrams IOTE*	0203735A/D2UT

D. FY 1997 programs for which funding was shown in the FY 1996 President's Budget Submit (February 1995), but which are no longer funded.

BRIEF EXPLANATION	Program terminated. Funds transferred to Soldier Survivabiltiy. Lower priority effort became unfunded. Program terminated. Project completed in FY 1996. Funds transferred to higher priority programs.
TILLE	AGS Improvements Tactical Logistics Producibility Technology Armored Gun System (AGS) GIDEP/AGED Field Artillery Ammunition (NATO)
PE/PROJECT	0203735A/D392 0603001A/DC44 0603005A/A340 0604645A/D413 0605803A/M731

Descriptive summaries for PE 0603806A - NBC Defense Systems, AD and PE 0604806A - NBC Defense Systems, ED are not provided in this Army submission. Since these programs were transferred to Defense RDT&E in FY 1996, program details are available in the Defense RDT&E submission under PE 0603884BP and PE 0604384BP.

3. Classification. This document contains no classified data. Classified/Special Access Programs which are submitted offline are listed below.

0203735A/DC64	0603005A/DC82	0603238A/D182/D189
0203744A/DB75	0603009A	0603322A
0203806A	0603012A	0603639A
0203808A	0603013A	0603647A
0301359A	0603017A	0603710A/DC63
0602104A	0603018A	0603851A
0602122A	0603019A	0604649A/DG15
0602788A	0603020A	
0603122A		



	PE	PROGRAM ELEMENT TITLE	PAGE
#1 - BA	#1 - BASIC RESEARCH		
_	0601101A	In-House Laboratory Independent Research	
7	0601102A	Defense Research Sciences	12
3	0601104A	University and Industry Research Centers	98
#2 - EX	#2 - EXPLORATORY DEVELOPMENT	/ELOPMENT	
4	0602105A	Materials Technology	106
5	0602120A	Sensors and Electronic Survivability	111
9	0602211A	Aviation Technology	121
7	0602270A	Electronic Warfare (EW) Technology	129
∞	0602303A	Missile Technology	136
6	0602308A	Modeling and Simulation Technology	140
10	0602601A	Combat Vehicle and Automotive Technology	146
11	0602618A	Ballistics Technology	160
12	0602622A	Chemical, Smoke and Equipment Defeating Technology	168
13	0602623A	Joint Service Small Arms Program	173
14	0602624A	Weapons and Munitions Technology	175
15	0602705A	Electronics and Electronic Devices	186
16	0602709A	Night Vision Technology	192
17	0602712A	Countermine Systems Exploratory Development	195
18	0602716A	Human Factors Engineering Technology	198
19	0602720A	Environmental Quality Technology	204

	PE	PROGRAM ELEMENT TITLE	PAGE
#2 - EX	PLORATORY DE	#2 - EXPLORATORY DEVELOPMENT - Continued	
20	0602782A	Command, Control, Communications Technology	223
21	0602783A	Computer and Software Technology	229
22	0602784A	Military Engineering Technology	234
23	0602785A	Manpower/Personnel/Training Technology	248
24	0602786A	Logistics Technology	253
25	0602787A	Medical Technology	268
26	0602789A	Army Artificial Intelligence Technology	288
#3 - AD	#3 - ADVANCED DEVELOPMENT	LOPMENT	
27	0603001A	Logistics Advanced Technology	290
28	0603002A	Medical Advanced Technology	310
29	0603003A	Aviation Advanced Technology	332
30	0603004A	Weapons and Munitions Advanced Technology	348
31	0603005A	Combat Vehicle and Automotive Advanced Technology	357
32	0603006A	Command, Control and Communication Advanced Technology	369
33	0603007A	Manpower, Personnel and Training Advanced Technology	381
34	0603105A	Military Human Immunodeficiency Virus (HIV) Research	386
35	0603238A	Air Defense/Precision Strike Technology	388
36	0603270A	Electronic Warfare (EW) Technology	394
37	0603313A	Missile and Rocket Advanced Technology	399
38	0603606A	Landmine Warfare and Barrier Advanced Technology	420



	PE	PROGRAM ELEMENT TITLE	PAGE
#3 - Al	OVANCED DEVE	#3 - ADVANCED DEVELOPMENT - Continued	
39	0603607A	Joint Service Small Arms Program	425
40	0603654A	Line-of-Sight Technology Demonstration	428
41	0603710A	Night Vision Advanced Technology	430
42	0603734A	Military Engineering Advanced Technology	437
43	0603759A	Chemical/Biological Defense and Smoke Advanced Technology Development	444
44	0603771A	Army Industrial Preparedness Manufacturing Technology	445
45	0603772A	Advanced Tactical Computer Science and Sensor Technology	449
#4 - Di	EMONSTRATION	#4 - DEMONSTRATION AND VALIDATION	
46	0603308A	Army Missile Defense Systems Integration	457
47	0603619A	Landmine Warfare and Barrier - Advanced Development	460
48	0603627A	Smoke, Obscurant and Target Defeating System - Advanced Development	465
49	0603640A	Artillery Propellant Development	469
20	0603645A	Armored Systems Modernization - Advanced Development	474
51	0603649A	Engineering Modification Equipment - Advanced Development	492
52	0603653A	Advanced Tank Armament System	497
53	0603713A	Army Data Distribution System	505
54	0603730A	Tactical Surveillance System - Advanced Development (TIARA)	511
55	0603745A	Tactical Electronic Support Systems - Advanced Development (TIARA)	515
99	0603747A	Soldier Support and Survivability	519
57	0603760A	Distributive Interactive Simulations - Advanced Development	537

	PE	PROGRAM ELEMENT TITLE	PAGE
#4 - DE	MONSTRATION A	#4 - DEMONSTRATION AND VALIDATION - Continued	
28	0603766A	Tactical Exploitation of National Capabilities (TENCAP) - Demonstration/Validation (TIARA)	540
59	0603774A	Night Vision Systems - Advanced Development	545
09	0603790A	NATO Research and Development	549
61	0603801A	Aviation - Advanced Development	555
62	0603802A	Weapons and Munitions - Advanced Development	695
63	0603804A	Logistics and Engineering Equipment - Advanced Development	216
64	0603805A	Combat Service Support Control System Evaluation and Analysis	611
65	0603807A	Medical Systems - Advanced Development	623
99	0603854A	Artillery Systems Demonstration and Validation	640
<i>L</i> 9	0603856A	SCAMP BLK II (Space)	645
#5 - EN	IGINEERING ANI	#5 - ENGINEERING AND MANUFACTURING DEVELOPMENT	
89	0604201A	Aircraft Avionics	648
69	0604220A	Armed, Deployable OH-58D	654
70	0604223A	Comanche	657
71	0604270A	Electronic Warfare (EW) Development	<i>L</i> 99
72	0604315A	Tri-Service Standoff Attack Missile (TSSAM)	069
73	0604321A	All Source Analysis System (TIARA)	692
74	0604325A	Follow-On To TOW	701
75	0604604A	Medium Tactical Vehicles	704
9/	0604609A	Smoke, Obscurant and Target Defeating System - Engineering Development	400

	PE	PROGRAM ELEMENT TITLE	PAGE
5 - EN	GINEERING ANI	5 - ENGINEERING AND MANUFACTURING DEVELOPMENT - Continued	
7.1	0604611A	Javelin	713
8/	0604619A	Landmine Warfare	717
6/	0604622A	Family of Heavy Tactical Vehicles	721
20	0604633A	Air Traffic Control	728
31	0604640A	Advanced Command and Control Vehicle	733
32	0604641A	Tactical Unmanned Ground Vehicle	738
33	0604642A	Light Tactical Wheeled Vehicle	741
3 4	0604645A	Armored Systems Modernization (ASM) - Engineering Development	746
35	0604649A	Engineer Mobility Equipment Development	758
98	0604710A	Night Vision Systems - Engineering Development	292
37	0604713A	Combat Feeding, Clothing, and Equipment	783
88	0604715A	Non-System Training Devices - Engineering Development	806
89	0604716A	Terrain Information - Engineering Development (TIARA)	824
06	0604739A	Integrated Broadcast Service - Modules	829
)1	0604740A	Tactical Surveillance System - Engineering Development	832
32	0604741A	Air Defense Command, Control, Intelligence - Engineering Development	840
33	0604746A	Automatic Test Equipment Development	852
46	0604760A	Distributive Interactive Simulations - Engineering Development	864
95	0604766A	Tactical Exploitation of National Capabilities (TENCAP) - Engineering & Manufacturing	877
		Development (TIARA)	
96	0604768A	Brilliant Anti-Armor (BAT) Submunition	988
24	0604770A	Joint Surveillance/Target Attack Radar System	006
86	0604778A	Positioning Systems Development (Space)	910

	PE	PROGRAM ELEMENT TITLE	PAGE
#5 - EN	GINEERING AN]	#5 - ENGINEERING AND MANUFACTURING DEVELOPMENT - Continued	
66	0604780A	Combined Arms Tactical Trainer (CATT)	917
100	0604801A	Aviation - Engineering Development	922
101	0604802A	Weapons and Munitions - Engineering Development	927
102	0604804A	Logistics & Engineer Equipment - Engineering Development	951
103	0604805A	Command, Control, Communications Systems - Engineering Development	992
104	0604807A	Medical Materiel/Medical Biological Defense Equipment - Engineering Development	1010
105	0604808A	Landmine Warfare/Barrier - Engineering Development	1026
106	0604814A	Sense and Destroy Armor Munition - Engineering Development	1035
107	0604816A	Longbow	1044
108	0604817A	Combat Identification - Engineering & Manufacturing Development	1062
109	0604818A	Army Tactical Command and Control Hardware & Software	1071
110	0604820A	Radar Development	1079
111	0604823A	Firefinder	1086
7W - 9#	#6 - MANAGEMENT SUPPORT	PPORT	
112	0604256A	Threat Simulator Development	1089
113	0604258A	Target Systems Development	1092
114	0604759A	Major Test and Evaluation Investment	1097
115	0605103A	Rand Arroyo Center	1107
116	0605301A	Army Kwajalein Atoll	1111
117	0605601A	Army Test Ranges and Facilities	1117



	PE	PROGRAM ELEMENT TITLE	PAGE
#6 - M	NNAGEMENT SU	#6 - MANAGEMENT SUPPORT - Continued	
118	0605602A	Army Test Technology and Sustaining Instrumentation	1135
119	0605604A	Survivability/Lethality Analysis	1144
120	0605605A	DOD High Energy Laser System Test Facility (HELSTF)	1171
121	0605606A	Aircraft Certification	1173
122	0605702A	Meteorological Support to Research, Development, Testing & Evaluation Activities	1175
123	0605706A	Materiel Systems Analysis	1181
124	0605709A	Exploitation of Foreign Items	1186
125	0605712A	Support of Operational Testing	1191
126	0605801A	Programwide Activities	1205
127	0605802A	International Cooperative Research and Development	1212
128	0605803A	Technical Information Activities	1214
129	0605805A	Munitions Standardization Effectiveness and Safety	1231
130	0605853A	Environmental Conservation	1242
131	0605854A	Pollution Prevention	1248
132	0605856A	Environmental Compliance - Research, Development, Testing & Evaluation	1255
133	0605876A		1263
134	0605878A	Maintenance and Repair - Research, Development, Testing & Evaluation	1270
135	0605879A	Operation of Utilities & Other Engineering	1277
136	0605896A	Base Operations - Research, Development, Testing & Evaluation	1281
137	0605898A	Management Headquarters (Research and Development)	1288

	PE	PROGRAM ELEMENT TITLE	PAGE
#7 - OP	ERATIONAL SYS	#7 - OPERATIONAL SYSTEM DEVELOPMENT	
138	0102419A	Aerostat Joint Program Office	1293
139	0203726A	Advanced Field Artillery Tactical Data System	1296
140	0203735A	Combat Vehicle Improvement Programs	1305
141	0203740A	Maneuver Control System	1333
142	0203744A	Aircraft Modifications/Product Improvement Program	1347
143	0203752A	Aircraft Engine Component Improvement Program	1359
144	0203758A	Digitization	1364
145	0203801A	Missile/Air Defense Product Improvement Program	1368
146	0203802A	Other Missile Product Improvement Programs	1382
147	0208010A	Joint Tactical Communications Program (TRI-TAC)	1403
148	0208053A	Joint Tactical Ground System (TIARA)	1407
149	0303140A	Communications Security (COMSEC) Equipment	1410
150	0303142A	Satellite Communications (SATCOM) Ground Environment (SPACE)	1420
151	0303150A	Army Global Command and Control System (AGCCS)	1449
152	0305128A	Security and Intelligence Activities	1453
153	0603778A	Multiple Launch Rocket System Product Improvement Program	1456
154	0708045A	Army Industrial Preparedness Manufacturing Technology	1471



Program Element Title	PE	PAGE
Advanced Command and Control Vehicle	0604640A	733
Advanced Field Artillery Tactical Data System	0203726A	1296
Advanced Tactical Computer Science and Sensor Technology	0603772A	449
Advanced Tank Armament System	0603653A	497
Aerostat Joint Program Office	0102419A	1293
Air Defense Command, Control, Intelligence - Engineering Development	0604741A	840
Air Defense/Precision Strike Technology	0603238A	388
Air Traffic Control	0604633A	728
Aircraft Avionics	0604201A	648
Aircraft Certification	0605606A	1173
Aircraft Engine Component Improvement Program	0203752A	1359
Aircraft Modifications/Product Improvement Program	0203744A	1347
All Source Analysis System (TIARA)	0604321A	692
Armed, Deployable OH-58D	0604220A	654
Armored Systems Modernization (ASM) - Engineering Development	0604645A	746
Armored Systems Modernization - Advanced Development	0603645A	474
Army Artificial Intelligence Technology	0602789A	288
Army Data Distribution System	0603713A	502
Army Global Command and Control System (AGCCS)	0303150A	1449
Army Industrial Preparedness Manufacturing Technology	0708045A	1471
Army Industrial Preparedness Manufacturing Technology	0603771A	445
Army Kwajalein Atoll	0605301A	11111
Army Missile Defense Systems Integration	0603308A	457
Army Tactical Command and Control Hardware & Software	0604818A	1071
Army Test Ranges and Facilities	0605601A	1117

Program Element Title	PE	PAGE
Army Test Technology and Sustaining Instrumentation	0605602A	1135
Artillery Propellant Development	0603640A	469
Artillery Systems Demonstration and Validation	0603854A	640
Automatic Test Equipment Development	0604746A	852
Aviation - Advanced Development	0603801A	555
Aviation - Engineering Development	0604801A	922
Aviation Advanced Technology	0603003A	332
Aviation Technology	0602211A	121
Ballistics Technology	0602618A	160
Base Operations - Research, Development, Testing & Evaluation	0605896A	1281
Brilliant Anti-Armor (BAT) Submunition	0604768A	988
Chemical, Smoke and Equipment Defeating Technology	0602622A	168
Chemical/Biological Defense and Smoke Advanced Technology Development	0603759A	444
Comanche	0604223A	657
Combat Feeding, Clothing, and Equipment	0604713A	783
Combat Identification - Engineering & Manufacturing Development	0604817A	1062
Combat Service Support Control System Evaluation and Analysis	0603805A	611
Combat Vehicle and Automotive Advanced Technology	0603005A	357
Combat Vehicle and Automotive Technology	0602601A	146
Combat Vehicle Improvement Programs	0203735A	1305
Combined Arms Tactical Trainer (CATT)	0604780A	917
Command, Control and Communication Advanced Technology	0603006A	369
Command, Control, Communications Systems - Engineering Development	0604805A	992
Command, Control, Communications Technology	0602782A	223
Communications Security (COMSEC) Equipment	0303140A	1410

Program Element Title	PE	PAGE
Computer and Software Technology	0602783A	229
Countermine Systems Exploratory Development	0602712A	195
Defense Research Sciences	0601102A	12
Digitization	0203758A	1364
Distributive Interactive Simulations - Advanced Development	0603760A	537
Distributive Interactive Simulations - Engineering Development	0604760A	864
DOD High Energy Laser System Test Facility (HELSTF)	0605605A	1171
Electronic Warfare (EW) Technology	0603270A	394
Electronic Warfare (EW) Technology	0602270A	129
Electronic Warfare (EW) Development	0604270A	<i>L</i> 99
Electronics and Electronic Devices	0602705A	186
Engineer Mobility Equipment Development	0604649A	758
Engineering Modification Equipment - Advanced Development	0603649A	492
Environmental Compliance - Research, Development, Testing & Evaluation	0605856A	1255
Environmental Conservation	0605853A	1242
Environmental Quality Technology	0602720A	204
Exploitation of Foreign Items	0605709A	1186
Family of Heavy Tactical Vehicles	0604622A	721
Firefinder	0604823A	1086
Follow-On To TOW	0604325A	701
Human Factors Engineering Technology	0602716A	198
In-House Laboratory Independent Research	0601101A	-
Integrated Broadcast Service - Modules	0604739A	829
International Cooperative Research and Development	0605802A	1212
Javelin	0604611A	713

Program Element Title	PE	PAGE
Joint Service Small Arms Program	0603607A	425
Joint Service Small Arms Program	0602623A	173
Joint Surveillance/Target Attack Radar System	0604770A	006
Joint Tactical Communications Program (TRI-TAC)	0208010A	1403
Joint Tactical Ground System (TIARA)	0208053A	1407
Landmine Warfare	0604619A	717
Landmine Warfare and Barrier - Advanced Development	0603619A	460
Landmine Warfare and Barrier Advanced Technology	0603606A	420
Landmine Warfare/Barrier - Engineering Development	0604808A	1026
Light Tactical Wheeled Vehicle	0604642A	741
Line-of-Sight Technology Demonstration	0603654A	428
Logistics & Engineer Equipment - Engineering Development	0604804A	951
Logistics Advanced Technology	0603001A	290
Logistics and Engineering Equipment - Advanced Development	0603804A	216
Logistics Technology	0602786A	253
Longbow	0604816A	1044
Maintenance and Repair - Research, Development, Testing & Evaluation	0605878A	1270
Major Test and Evaluation Investment	0604759A	1097
Management Headquarters (Research and Development)	0605898A	1288
Maneuver Control System	0203740A	1333
Manpower, Personnel and Training Advanced Technology	0603007A	381
Manpower/Personnel/Training Technology	0602785A	248
Materials Technology	0602105A	106
Materiel Systems Analysis	0605706A	1181
Medical Advanced Technology	0603002A	310



Program Element Title	PE	PAGE
Medical Materiel/Medical Biological Defense Equipment - Engineering Development	0604807A	1010
	0603807A	623
	0602787A	268
hicles	0604604A	704
Research, Development, Testing & Evaluation Activities	0605702A	1175
	0603734A	437
	0602784A	234
y Virus (HIV) Research	0603105A	386
3 valuation	0605876A	1263
	0603313A	399
	0602303A	136
Product Improvement Program	0203801A	1368
Modeling and Simulation Technology 0	0602308A	140
uct Improvement Program	0603778A	1456
and Safety	0605805A	1231
	0603790A	549
λ	0603710A	430
evelopment	0603774A	545
nt	0604710A	292
	0602709A	192
vices - Engineering Development	0604715A	908
	0605879A	1277
rams	0203802A	1382
	0605854A	1248
Positioning Systems Development (Space)	0604778A	910

Program Element Title	PE	PAGE
Programwide Activities	0605801A	1205
Radar Development	0604820A	1079
Rand Arroyo Center	0605103A	1107
Satellite Communications (SATCOM) Ground Environment (SPACE)	0303142A	1420
SCAMP BLK II (Space)	0603856A	645
Security and Intelligence Activities	0305128A	1453
Sense and Destroy Armor Munition - Engineering Development	0604814A	1035
Sensors and Electronic Survivability	0602120A	111
Smoke, Obscurant and Target Defeating System - Advanced Development	0603627A	465
Smoke, Obscurant and Target Defeating System - Engineering Development	0604609A	402
Soldier Support and Survivability	0603747A	519
Support of Operational Testing	0605712A	1191
Survivability/Lethality Analysis	0605604A	1144
Tactical Electronic Support Systems - Advanced Development (TIARA)	0603745A	515
Tactical Exploitation of National Capabilities (TENCAP) - Demonstration/Validation (TIARA)	0603766A	540
Tactical Exploitation of National Capabilities (TENCAP) - Engineering & Manufacturing Development (TIARA)	0604766A	877
Tactical Surveillance System - Advanced Development (TIARA)	0603730A	511
Tactical Surveillance System - Engineering Development	0604740A	832
Tactical Unmanned Ground Vehicle	0604641A	738
Target Systems Development	0604258A	1092
Technical Information Activities	0605803A	1214
Terrain Information - Engineering Development (TIARA)	0604716A	824
Threat Simulator Development	0604256A	1089
Tri-Service Standoff Attack Missile (TSSAM)	0604315A	069
University and Industry Research Centers	0601104A	98

Program Element Title	PE	PAGE
Weapons and Munitions - Advanced Development Weapons and Munitions - Engineering Development Weapons and Munitions Advanced Technology Weapons and Munitions Technology	0603802A 0604802A 0603004A 0602624A	569 927 348 175



	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION SE	IEET (R	-2 Exhi	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 4 - Demonstrat	зирдет АстіvітY 4 - Demonstration and Validation			PE NU 060 Inte	PE NUMBER AND TITLE 0603308A Army Integration	TTLE rmy Mis:	PE NUMBER AND TITLE 0603308A Army Missile Defense Systems Integration	nse Syst	ems	L	РРОЈЕСТ D990
O	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D990 Theater Missile Integration	Theater Missile Defense (TMD) System Integration	0	23329	2884	2886	2877	2865	2842		Continuing	Continuing
A. Mission Descrip advocate, integrator, representative for the active defense, passi program produces ha accomplish the integ well as Aviation and demonstration and va	A. Mission Description and Budget Item Justification: Funds initiatives directed by U.S. Army Space and Strategic Defense Command in its capacity as the U.S. Army advocate, integrator, and focal point for TMD operations. USASSDC is empowered by the Department of the Army to serve as the Department level, operational representative for theater missile defense. This program conducts systems analysis, studies, and experimentation designed to validate and integrate the pillars of TMD: active defense, passive defense, attack operations, and battle management/command, control, communications, computers, and intelligence functions. This integration program produces hardware and software solutions, doctrinal and procedural solutions, interfaces, and architectures; these inter-pillar and intra-pillar products, required to accomplish the integrated TMD mission, exceed the scope of other programs. This program supports the milestone decisions for active defense missile and C4I systems, as well as Aviation and Artillery. This Project focuses on efforts associated with advanced technology development used to demonstrate general military utility to include demonstration and validation in the area of TMD and is appropriately funded in Budget Activity 4.	tion: Funds tions. USA ram conduc id battle mai doctrinal an scope of oth on efforts as	initiatives c SSDC is em is systems ar ragement/co i procedural er programs sociated wit	irected by U powered by the nalysis, studin mmand, come solutions, in This program advanced the nadvanced the nalysis in Budget A	S. Army SI, the Departm es, and expe trol, commu nterfaces, and am supports echnology detrivity 4.	ace and Strant of the Aurimentation nications, cc 1 architectur the milestor levelopment	itegic Defensions to serve designed to amputers, and es; these into the decisions used to dem	se Command as the Depa validate and d intelligenc er-pillar and for active de onstrate gen	d in its capacartment level integrate the continue functions. I intra-pillar seens missileral military	initiatives directed by U.S. Army Space and Strategic Defense Command in its capacity as the U.S. Army SDC is empowered by the Department of the Army to serve as the Department level, operational systems analysis, studies, and experimentation designed to validate and integrate the pillars of TMD: agement/command, control, communications, computers, and intelligence functions. This integration I procedural solutions, interfaces, and architectures; these inter-pillar and intra-pillar products, required to er programs. This program supports the milestone decisions for active defense missile and C4I systems, as sociated with advanced technology development used to demonstrate general military utility to include teely funded in Budget Activity 4.	S. Army MD: tion puired to stems, as
Acquisition Strateg	Acquisition Strategy: Program is continuous. Planned accomplishments will be performed by various performers.	ned accomp	ishments wi	ll be perform	ned by varion	ıs performeı	Š.				
FY 1995 Accomplis	FY 1995 Accomplishments: There were no projects for TMD Systems Integration funded in FY 95.	s for TMD S	ystems Integ	gration funde	d in FY 95.						
FY 1996 Planned Program:	Conduct systems analysis, studies, and experimentation designed to validate and integrate the pillars of TMD. Missile Defense Battle Integration Center funding; Missile Defense Battle Integration Center funding; provides upgrades to the Synthetic Theater of War (STOW) combat environment; complete the development of the Distributed Interactive Simulation (DIS) interface; provides the STOW environment in all tactical operations centers. SBR/STTR. Revised Economic Assumptions not available for execution. Revised Economic Assumptions and available for execution. Conduct testing and exercising prototypical hardware and software related to integrated TMD operations, enhancements to models and simulations, systems analysis and studies regarding TMD issues.	dies, and explication Center hetic Theate the Distributent in all tacent in and tacent in prototypic granding TM searding TM	funding; of War (ST ed Interactiv tical operativ the for exective al hardware ID issues.	n designed to OW) comba e Simulation ons centers. ution.	validate an t environme (DIS) inter	d integrate tl face; ntegrated TN	he pillars of '	TMD.	nents to moc	dels and simu	lations,
Project D990				Page 1 of 3 Pages	3 Pages			Exhib	Exhibit R-2 (PE 0603308A))603308A)	

RDT&E BUDGET ITEM JUST	IFICATION	N SHEET (IFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUMBER AND TITLE 0603308A Army Integration	PE NUMBER AND TITLE 0603308A Army Missile Defense Systems Integration	PROJECT D990
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995)	FY 1995 0	FY 1996 2985	FY 1997 2985	
Adjustment to FY 1995 Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget	,	23565		
Current President's Budget Submit Change Summary Explanation: Fy 96: Revised Economic Assumptions (-236)	>	23329	2884	
C. Other Program Funding Summary: There are no other related RDTE appropriation efforts.	ed RDTE appro	priation efforts.		
D. Schedule Profile: These efforts are continuous in nature; therefore, no milestone or events are provided.	sfore, no milesto	one or events are	provided.	
Project D990	Pas	Page 2 of 3 Pages	Exhit	Exhibit R-2 (PE 0603308A)
		458		





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ECT CO	ST BREAKE	OWN (R-3)	DATE March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation	PE 06	PE NUMBER AND TITLE 0603308A Arm) Integration	PE NUMBER AND TITLE 0603308A Army Missile Defense Systems Integration		РКОЈЕСТ D990
A. <u>Project Cost Breakdown</u> Program Management Support Total	F <u>Y 1995</u> 0	<u>FY 1996</u> 23329 23329	F <u>Y 1997</u> 2884 2884		
B. Budget Acquisition History and Planning Information: Not applicable.	ble.				
					12
Project D990	Page 3 o	Page 3 of 3 Pages	Exh	Exhibit R-3 (PE 0603308A)	
	4	459			

RDT&E BUDGET ITEM JUS	EM JUS		TION SE	IEET (R	FIFICATION SHEET (R-2 Exhibit)	bit)		DATE	March 1996	•
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NU 060 Adv	PE NUMBER AND TITLE 0603619A Land Advanced Deve	PENUMBER AND TITLE 0603619A Landmine Warfare and Barrier Advanced Development	Warfare ent	and Barr	ier -		
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	23378	31942	16464	11707	9985	11479	11085		Continuing Continuing	Continuing
D005 Landmine Advanced Development	0	0	0	4052	4613	4586	0		0	13251
D606 Countermine/Barrier Advanced Development	23378	31942	16464	7655	5372	6893	11085		Continuing Continuing	Continuing

Handheld Stand-off Minefield Detection System (HSTAMIDS), Ground Stand-off Minefield Detection System (GSTAMIDS) and for mine neutralization with the Explosive Stand-off Minefield Breacher (ESMB) and the Anti-personnel Obstacle Breaching System (APOBS). This program element supports Advanced Development efforts and is, Mission Description and Budget Item Justification: This program element provides for advanced development of new mine and countermine systems by prototyping minefield. It also provides for the initiation and/or continuation of advanced development of the Airborne Stand-off Minefield Detection System (ASTAMIDS), the modern munitions technology, advanced development sensors, logic networks, fuzes, power sources, warhead components and modules into complete systems. Development of minefield command and control equipment will provide new capabilities in landmine warfare and will move the future Army toward the intelligent therefore, appropriately placed in Budget Activity 4.

Page 1 of 5 Pages

Exhibit R-2 (PE 0603619A)





RDT&E BUDGET ITEM JUS	EM JUS	TIFICAL	ION SH	TIFICATION SHEET (R-2 Exhibit)	-2 Exhil	oit)	DATE		March 1996	40
BUDGET ACTIVITY 4 - Demonstration and Validation			960 060 Adv	PE NUMBER AND TITLE 0603619A Landmine WaAdvanced Development	⊓⊓LE andmine evelopm	Warfare ent	E NUMBER AND TITLE 0603619A Landmine Warfare and Barrier Advanced Development	-	# O	РРОЈЕСТ D606
			-							
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	5	Cost to Complete	Total Cost
D606 Countermine/Barrier Advanced Development	23378	31942	16464	7655	5372	6893	11085	0	Sontinuing	Continuing Continuing

for evaluation of neutralizing, clearing, breaching and detection concepts which will enhance the U.S. capability in countermine warfare. The program includes the Airborne A. Mission Description and Budget Item Justification: This project provides for advanced development of new countermine systems by prototyping advanced sensors (GSTAMIDS), Explosive Stand-off Minefield Breacher (ESMB), and Anti-personnel Obstacle Breaching System (APOBS). The program provides for proof-of-principle Stand-off Minefield Detection System (ASTAMIDS), the Handheld Stand-off Minefield Detection System (HSTAMIDS), Ground Stand-off Minefield Detection System for these systems.

Acquisition Strategy: ASTAMIDS and HSTAMIDS - RDTE with sole source production to RDTE contractor; ESMB - RDTE with competitive production.

FY 1995 Accomplishments:

- Fabricated APOBS Flight Test Hardware and Conducted Flight Tests
 - Completed ASTAMIDS Detail Hardware Design 10300
 - Continued ASTAMIDS Prototype Development 11428
 - ASTAMIDS Test Planned and Site Prepared 1000
- 23378

FY 1996 Planned Program:

- Conduct System Design and Preliminary Design Reviews for ESMB
- Initiate Advanced Development Design for HSTAMIDS 6887
- Complete ASTAMIDS Development/Fabrication of Prototype
- Initiate/Complete Development and Early User Tests of ASTAMIDS 10563 3700
 - SBIR/STTR
- Revised Economic Assumptions not available for execution
 - 31942

Page 2 of 5 Pages

Project D606

Exhibit R-2 (PE 0603619A)

RDT&E BUDGET ITEM JUSTI	FICATION SHEET (R-2 Exhibit)	ON SHE	ET (R-	2 Exhib	it)		DATE	March 1996	9
вирбет Астіvітץ 4 - Demonstration and Validation		9603 0603 Adva	PE NUMBER AND TITLE 0603619A Land Advanced Deve	PE NUMBER AND TITLE 0603619A Landmine Wa Advanced Development	PE NUMBER AND TITLE 0603619A Landmine Warfare and Barrier Advanced Development	and Baı	rrier -		Р ROJECT D606
FY 1997 Planned Program:	ESMB								
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995)	FY 1995 23562 23075	FY 1996 32839	<u>7 1996</u> 32839	FY 1997 17044					
Adjustments to Budget Year 1997 since		32.	32265 -323	-580					
FY 1996 President's Budget Current President's Budget Submit	23378	31.	31942	16464					
Change Summary Explanation: Funding: FY 1995 - Below threshold reprogramming from	PE 0604808A for APOBS.	8A for APC	JBS.						
C. Other Program Funding Summary FY 1995 RDTE, 0604808.D415, Mine Neutralization/	FY 1996 F	FY 1997 14232	FY 1998 22866	FY 1999 36637	FY 2000 19964	FY 2001 17054		To Compl Cont'd	Total Cost Cont'd
Detection OPA3, S11500, ASTAMIDS OPA3, R68200, HSTAMIDS OPA3, M80300, ESMB				3772	11280 3742	11201 6372 3430		Cont'd Cont'd Cont'd	Cont'd Cont'd Cont'd
Project D606	H	Page 3 of 5 Pages	Pages			Exhi	Exhibit R-2 (PE 0603619A)	0603619A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603619A Landmine Warfare and Barrier Advanced Development	PROJECT D606
D. Schedule Profile 1 2 3 4 1	FY 1997	
	7	
Project D606	Page 4 of 5 Pages Exhibit R-	Exhibit R-2 (PE 0603619A)

RDT&E PROGRAM ELEMENT/PROJECT	ROJECT COST BREAKDOWN (R-3)	DOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603619A Landmine Wa Advanced Development	PE NUMBER AND TITLE 0603619A Landmine Warfare and Barrier - Advanced Development	PROJECT rrier - D606
A. Project Cost BreakdownFY 1995Development Primary Hardware19227Test and Evaluation675Government Engineering2745Government Program Management731SBIR/STTRRevised Economic AssumptionTotal23378	1995 EY 1996 1927 21764 675 2100 2745 6492 731 550 713 323	FY 1997 9362 4050 2452 600	
B. Budget Acquisition History and Planning Information Not Applicable	Page 5 of 5 Pages	Exhir	Exhibit R-3 (PE 0603619A)
	787		





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TEM JUS	TIFICA	TION S	HEET (R	-2 Exhi	bit)		DATE N	March 1996	9(
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NI 060 Sys	PE NUMBER AND TITLE 0603627A Smoke, Obscurant and Target Defeating System - Advanced Development	ritle imoke, O ivanced I	bscuran Jevelopn	t and Tar nent	get Defe		PROJECT DE79
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DE79 Smoke, Obscurant-Advanced Development	3077	3160	6380	5631	4798	0	0		Continuing	Continuing
A. Mission Description and Budget Item Justification: U.S. Forces must be able to effectively neutralize and degrade directed energy weapon systems and threat electro-optical systems/smart weapons that operate in the full range of the electro-magnetic spectrum. This program element supports the Demonstration/Validation (DEMVAL) of logistically supportable, high performance smoke and obscurant agents, munitions and devices to improve the survivability of the combined arms force and complement combined weapons systems. Improvements are sought across the entire multi-spectral range from visual through infrared (IR) and millimeter wavelengths (MMW) radar for incorporation into self-protection large area and projected smoke systems. The smoke obscuration technologies supported by this program enhance smoke systems as combat multipliers. This program element focuses on efforts associated with advanced technology development used to demonstrate general military utility to include demonstration and validation in the area of Smoke, Obscurant & Equip Systems Engineering and is correctly placed in Budget Activity 4.	stification: U.S. rate in the full rate arformance smok rovements are so ction large area a ogram element fo in the area of Sm in the area of Sm	Forces must nge of the ele e and obscur ught across the drop projected cuses on effcoke, Obscurz	be able to e ectro-magne ant agents, the entire mu smoke syste orts associate ant & Equip	ffectively nertic spectrum munitions an unitions an ulti-spectral rams. The smed with advared with advared with spectral spectral rams.	utralize and This progr d devices to ange from vi oke obscura nced technol gineering an	degrade dire am element improve the sual through tion technolo ogy develop d is correctly	scred energy supports the survivabilit infrared (II ogies suppor oment used t	weapon syst Demonstrat y of the com x) and millin ted by this p o demonstrat kudget Activ	Forces must be able to effectively neutralize and degrade directed energy weapon systems and threat ige of the electro-magnetic spectrum. This program element supports the Demonstration/Validation e and obscurant agents, munitions and devices to improve the survivability of the combined arms for ight across the entire multi-spectral range from visual through infrared (IR) and millimeter wavelenged projected smoke systems. The smoke obscuration technologies supported by this program enhanceness on efforts associated with advanced technology development used to demonstrate general militate, Obscurant & Equip Systems Engineering and is correctly placed in Budget Activity 4.	eat on force and ngths unce ilitary
Acquisition Strategy: Project DE79 Smoke, Obscurant-Advanced Development: The M157A2 Smoke Generator System was type classified from the demonstration/validation phase. The M157A2 production phase will be a competitive, two-year multi-year contract, with priced options. The Light Vehicle Obscurant Screening System (LVOSS) is an in-house effort and will be type classified from the demonstration/validation phase. A make or buy study will be conducted in FY 96 for production of the LVOSS launcher and grenade.	Obscurant-Advan production phass ort and will be typ e.	ced Develop e will be a co oe classified 1	ment: The l mpetitive, tr from the den	M157A2 Sm. wo-year mult nonstration/v	oke Generat ti-year contr alidation ph	or System wact, with prii	as type class ced options. e or buy stuc	sified from the Light \text{Yhe Light \text{V}} The will be co	he Vehicle Obsc nducted in F	urant Y 96 for
FY 1995 Accomplishments: • 60 LVOSS-Transitioned proponency from U.S. Armor School • 1397 LVOSS-Evaluated prototype for further development • 1120 LVOSS-Selected materials and hardware for system design • 500 Conducted Milestone III IPR for M157A1E1 Multi-Fuel M Total 3077	pponency from U type for further d als and hardware IPR for M157A3	.S. Armor Sc evelopment for system d IE1 Multi-Fu	S. Armor School to the U. S. Arevelopment for system design E1 Multi-Fuel Materiel Change	.S. Armor School to the U. S. Army Military Police School evelopment for system design .E.I Multi-Fuel Materiel Change	Military Poli	ce School				
FY 1996 Planned Program: 60 LVOSS-Conduct Milestone I/II In-Process Review 740 LVOSS-Complete Prototype Design Package 1200 LVOSS-Fabricate Pre-Production Test (PPT) Hardware 1123 LVOSS-Conduct PPT 28 SBIR/STTR 9 Revised Economic Assumption not available for execution 10tal	one I/II In-Proces type Design Pack roduction Test (P mption not availa	ss Review age PT) Hardwai tble for exect	re ution							
Project DE79			Page 1 of 4 Pages	f 4 Pages			Exhib	Exhibit R-2 (PE 0603627A)	0603627A)	

RDT&E BUDGET ITEM JUSTIFI	IIFICATION SHEET (R-2 Exhibit)	HEET (R-	2 Exhib	 E		DATE March 1996	1996	
BUDGET ACTIVITY 4 - Demonstration and Validation	PENI 060 Sys	PE NUMBER AND TITLE 0603627A Smoke, Obscurant and System - Advanced Development	nle noke, Ob anced D	scurant a	and Tarç ent	D TITLE Smoke, Obscurant and Target Defeating dvanced Development	PROJECT DE79	Ļ-
 FY 1997 Planned Program: 1800 LVOSS-Fabricate Production Qualification Test (PQT) Hardware 2813 LVOSS-Conduct PPQT and Systems Operational Modeling 1767 LVOSS-Systems Engineering, Planning and Documentation Total 6380 	Test (PQT) Hardware ional Modeling Documentation							
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995)	FY 1995 FY 2789 2740	FY 1996 3248	F <u>Y 1997</u> 6567					
Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since	166	3192 -32	-187					
Current President's Budget Submit	3077	3160	6380					
C. Other Program Funding Summary FY 1995 FY	FY 1996 FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	To		Total Cost
RDTE, A Budget Activity 5 PE 0604609A Project 5612 D200 Smoke/Obscurant OPA-3. Appropriation	1945 0	0	2745	9037	11186	Cont'd	ŭ	Cont'd
moke Generator	5052 3475			2338	3715	40	4000 10 8	10053 8527
D. Schedule Profile FY 1995	4 1 2	FY 1996 2 3	4	FY 1997	7 4			
IS III/Type Classification X* m Design Review type Evaluation uct Milestone I IPR cate PPT Hardware	, ,		· ×				į	
Project DE/9	Page 2 of 4 Pages	4 Pages			Exhibi	Exhibit R-2 (PE 0603627A)	(A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	TE March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603627A Smoke, Obscurant and Target Defeating System - Advanced Development	PROJECT Pt Defeating DE79
D. Schedule Profile FY 1995		
ate PQT Hardware Lot PQT Ins Engineering Planning ation	4 4 7 × 8 × ×	
Project DE79	Page 3 of 4 Pages Exhibit R	Exhibit R-2 (PE 0603627A)
	731	

RDT&E PROGRAM ELEMENT/PROJ	ECT COST	BREAKD	ROJECT COST BREAKDOWN (R-3)	DATE March 1996	966
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUN 0603 Syst	PE NUMBER AND TITLE 0603627A Smol System - Advan	PE NUMBER AND TITLE 0603627A Smoke, Obscurant and Target Defeating System - Advanced Development	rget Defeating	Р R ОЈЕСТ DE79
A. Project Cost Breakdown	FY 1995	FY 1996	FY 1997		
Primary Hardware Development	705	385	385		
Development Spt Equipment Acquisition	65	85	85		
Systems Engineering	616	505	505		
Integrated Logistics Support	80	95	115		
Quality Assurance	85	85	85		
Reliability, Maintainability and Availability	50	75	75		
Configuration Management	98	85	175		
Technical Data	55	187	300		
Production Qualification Test	250	606	2513		
Initial Operational Test and Evaluation			1200		
Contractor Engineering Support	225	95	150		
Government Engineering Support	200	400	367		
Program Management	360	254	425		
Total	3077	3160	6380		
B. Budget Acquisition History and Planning Information: Not applicable	able.				

UNCLA 468

Page 4 of 4 Pages

Project DE79

Exhibit R-3 (PE 0603627A)



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA.	TION S	HEET (R	-2 Exhi	bit)		DATE .	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NE 0 0 0	PE NUMBER AND TITLE 0603640A Artillery Propellant Development	ritle I rtillery P	ropellan	t Develop	oment	1	PROJECT DB91
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DB91 Artillery Propellant Development	24638	21347	18450	9188	0	0	0		0	127660

different types of charge increments, designated the XM231 and XM232. Each of these increments contains propellant, center core ignition elements, wear additives, flash A. Mission Description and Budget Item Justification: This program element is a dual-faceted program focused on efforts associated with development of the Modular and blast reducers and decoppering agent in a combustible case. MACS achieves zoning through the use of multiple increments of XM231 and XM232. MACS continues System (LIS), the XM200 Gun Mount and the XM194 Gun Mount. The XM297, LIS and the XM200 are being developed for the Crusader self-propelled howitzer (SPH). demonstration and validation of the Modular Artillery Charge System (MACS) and the 155mm Advanced Solid Propellant Armament (ASP-A) and is correctly placed in the older unicharge development which used a single charge increment, the XM230, to achieve zoning. The ASP-A consists of the XM297 Cannon, its Laser Ignition The XM194 is being developed to allow "bolt-in/bolt-out" integration of the XM297 into the M109A6 Paladin SPH. This program element focuses on the technology Artillery Charge System (MACS) and the 155mm Advanced Solid Propellant Armament (ASP-A). The MACS is a solid propellant charge system consisting of two Budget Activity 4.

FY 1995 Accomplishments:

- XM230: Core igniter development, stand alone bottom charge development. Program renamed Modular Artillery Charge System (MACS); (XM231/232); ASP-A: Continued development of XM297 cannon, its laser ignition system and the XM194 gun mount.
 - 870 Project management support and management engineering services.
- ASP-A: Continued XM297 Engineering Development Testing (EDT), including completion of EDT phases 5 and 6, initiation of phase 7, completion of the first pre-fatigue test and initiation of the second; continued testing of the laser ignition system including laser window testing and support of XM297 testing; completed a gun mount recoil module test. 2684

Total 24638

FY 1996 Planned Program:

- MACS: Support the XM297 program; ASP-A: Continued development of the XM297 cannon and its laser ignition system; initiate development of XM200 gun mount.
 - 600 Project management support and management engineering services.
- ASP-A: Continue XM297 Engineering Development Testing, including completion of EDT phases 7 and 8 and 2nd pre-fatigue test; conduct of the third pre-fatigue test; hydraulic fatigue testing of two each XM297 tubes and breeches. 2290
- 476 SBIR/STTR.
- 60 Revised Economic Assumptions not available for execution.

otal 21347

469

Page 1 of 5 Pages

Exhibit R-2 (PE 0603640A)

RDT&E BUDGET ITEM JUSTIFI	FICATION SHEET (R-2 Exhibit)	(R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603640A Artill	ND TITLE Artillery Propellant Development	PROJECT DB91
 FY 1997 Planned Program: 10200 MACS: Continue development; ASP-A: Continue development of the XM297 cannon, its laser ignition system and the XM200 gun mount; establish the Interim Safe Fatigue Life of the XM297 cannon. 600 Project management support and management engineering services. 7650 MACS: Complete Engineering Development Testing and initiate developmental and operational testing DT/OT; ASP-A: Continue Engineering Development Testing (phases 9 and 10); continue hydraulic fatigue testing and initiate first wear test; conduct thermal management test of the XM297 cannon. Total 18450 	nue development of the XIV. non. ngineering services. esting and initiate developn ue hydraulic fatigue testing	1297 cannon, its laser ignition synental and operational testing D'and initiate first wear test; cond	ystem and the XM200 gun mount; establish T/OT; ASP-A: Continue Engineering duct thermal management test of the
mary get (FY 1996) 1995)	FY 1995 FY 1996 24638 10946	FY 1997 19100	
Adjustments to FY 1995 Appropriated Amount (FY 1996) Adjustments to FY 1996 Adjustments to Budget Year (FY 1997) since	21563	-650	
FY 1996 President's Budget Current President's Budget Submit	24638 21347	18450	
Change Summary Explanation: Funding: Adjustments in FY 96 are the result of Revised Economic Assumptions (-216). Decrease in FY97 is the result of Revised Economic Assumptions (-650).	nomic Assumptions (-216) c Assumptions (-650).		
C. Other Frogram Funding Summary: None. D. Schedule Profile	FY 1996	FY 1997	~
Acquisition Milestones Milestone II IPR (MACS) Acquisition Milestones Milestone III IPR (MACS) Engineering Milestones Combustible Case Design Freeze (MACS)	N	7	1
Project DB91	Page 2 of 5 Pages		Exhibit R-2 (PE 0603640A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2		DATE March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603640A Artill	PENUMBER AND TITLE 0603640A Artillery Propellant Development	PROJECT DB91
D. Schedule Profile FY 1995	FY 1996 2 3 4	FY 1997 1 2 3 4	
)	n	
<u>.</u>			
	*		
Fatigue Test XM297 Cannon Milestones - Interim Safe		×	
Fatigue Life Test XM297 Cannon Milestones - Thermal		×	
Management Test XM297 Cannon Milestones - 1st Wear		×	
Test			
* Milestones completed.			
Project DB91 P_{i}	Page 3 of 5 Pages	Exhibit	Exhibit R-2 (PE 0603640A)
	471		

471

RDT	&E PROG	RAM EL	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	DJECT C	SOST BF	REAKDO	WN (R-	3	DATE	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation	ion and Val	idation			PE NUMBER AND TITLE 0603640A Artill	AND TITLE A Artille	ਹ ਸਸ∟E Artillery Propellant Development	ant Devel		PROJEC DB91	PROJECT DB91
A. Project Cost Breakdown Product Development Support and Management Test and Evaluation Revised Economic Assumptions Total	akdown t ment ssumptions			FY 1995 21084 870 2684 24638	EY. 15	EX 1996 17921 600 2290 536 21347	EY 1997 10200 600 7650 18450				
B. Budget Acquisition History and Planning Information	ion History and	Planning Infe	rmation								" . "
Performing Organizations Contractor or Contractor or	zations Contract	7	,		F						
Government Performing <u>Activity</u>	Method/1ype or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	remorming Activity <u>EAC</u>	office EAC	10tal Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations ARMTEC Defense SS/CPIF	nt Organization SS/CPIF	ns Aug 92	5619	5619	3244	700	875	800		5619	
Products, Coachella, CA	Ħ H	1104	1203	1703	790	375	353	300		1303	
Petersburg, FL	7. T FF	Sen 94	2034	2034	919	378	377	360		2034	
Marion., IL (Load, Assembly & Pac)		Var. V	386	. 33 33 34 34 34 34 34 34 34 34 34 34 34 3	3,77		1350	036		286	
MD Hi Shear.	FF FF	Mar 95	147	147	C071	147	0001	007		147	
Torrence, CA United Defense,	FF	TBD	105	105			105			105	
LP, York, PA Other contracts					400	437	576	110	400	1923	
(\$100K or less) AMCCOM, Various activities					40286	17866	11201	7330	6188	82871	
Project DB91				Pag	Page 4 of 5 Pages	s ₂		Ext	Exhibit R-3 (PE 0603640A)	0603640A)	





RDT&E PROGRAM ELEMENT/	GRAM EL		PROJECT	COST B	BREAKDOWN (R-3)	WN (R-	3	DATE	March 1996	96
BUDGET ACTIVITY 4 - Demonstration and Validation	alidation			PE NUMBER AND TITLE 0603640A Artill	AND TITLE	ry Propel	रामाह Artillery Propellant Development	opment		РРОЈЕСТ DB91
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle Radford Army FFP	e Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to <u>FY 1995</u> 2474	FY 1995	FY 1996 1573	FY 1997	Budget to Complete	Total <u>Program</u> 4047	
Ammunition Plant Army Research Laboratory,				2227	477	1244	950		4898	
Adelphi, MD Wright-Paterson					100	100	100		300	
Arb, Dayton, OH Various activities	•			13	603	167			783	
Support and Management Organizations AMCCOM,	nizations			2088	870	009	009	009	4758	
Test and Evaluation Organizations	Su			710	2234	1890	7250	2000	14084	
AZ AMCCOM, Dover, NJ				147	450	400	400		1397	
Government Furnished Property: None	y: None									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation SBIR/STTR				51092 2088 857	21084 870 2684	17921 600 2290 476	10200 600 7650	6588 600 2000	106885 4758 15481 626476	
Kevised Economic Assumptions Total Project				54037	24638	21347	18450	9188	127660	
Project DB91			Pa	Page 5 of 5 Pages	sə		ĒX	Exhibit R-3 (PE 0603640A)	0603640A)	

RDT&E BUDGET ITEM JUST	FEM JUS	TIFICAT	ION SF	HEET (R	IIFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NU 060 Adv	PE NUMBER AND TITLE 0603645A Armo Advanced Deve	PE NUMBER AND TITLE 0603645A Armored Systems Modernization - Advanced Development	Systems ent	Moderni	zation -		
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	168827	186252	0	0	0	0	0	0	0	749482
DB87 Combat Vehicle Survivability	8121	0	0	0	0	0	0		0	30428
DB88 Crusader Resupply Vehicle - Advanced Development	38338	59386	0	0	0	0	0		0	140833
DB98 Component Development	9528	0	0	0	0	0	0		0	40732
D409 Crusader Self-Propelled Howitzer - Advanced Development	112840	126866	0	0	0	0	0		0	537489

Mission Description and Budget Item Justification: Under PEO Armored Systems Modernization (ASM) management, the Advanced Field Artillery System (AFAS) and 4. Crusader is the Army's next generation indirect fire cannon and artillery resupply system for Force XXI. This system will provide an overmatching fire power capability Project Manager and management of AFAS/FARV was transferred from PEO ASM to PEO Field Artillery Systems (FAS). On 15 Nov 94, AFAS/FARV was approved by program element focuses on efforts associated with the technology demonstration and validation of Crusader (AFAS and FARV) and is correctly placed in Budget Activity the Defense Acquisition Board to proceed into the Demonstration and Validation phase as a single program. Beginning in FY 95, this program was named Crusader. This survivability, mobility and ammunition handling speed, and to decrease crew size. When fielded, Crusader will displace the M109A6 Paladin self-propelled Howitzer and the Future Armored Resupply Vehicle (FARV) were PEO ASM systems. The Conventional Systems Committee and the Defense Acquisition Executive concurred in the M992 Field Artillery Ammunition Supply Vehicle in rapidly deployable and forward deployed forces. Continuation of Crusader Demonstration and Validation is in PE ASM restructured program and notification was provided to Congress on 1 Jun 92. Subsequently, on 1 Mar 94, PM-AFAS and PM-FARV transitioned to a single (06) that will support the force commander's goal of dominating the maneuver battle. Crusader will incorporate advanced technologies to increase accuracy, rate of fire, 0603854A, Project D505.

Page 1 of 18 Pages

Exhibit R-2 (PE 0603645A)





RDT&E BUDGET ITEM JUST	EM JUS	TIFICA	TION SI	HEET (R	IFICATION SHEET (R-2 Exhibit)	bit)		DATE	March 1996	9(
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NI 06 0 Ad 1	PE NUMBER AND TITLE 0603645A Armo Advanced Deve	E NUMBER AND TITLE 0603645A Armored Systems Modernization Advanced Development	Systems	Moderni	ization -	.	PROJECT DB87
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DB87 Combat Vehicle Survivability	8121	0	0	0	0	0	0		0	30428

efforts consisted of: analytical characterization of top and direct fire engagement timelines (the time required for a threat weapon or smart top attack munitions to detect and A. Mission Description and Budget Item Justification Project DB87 - Combat Vehicle Survivability: This effort evaluated methods of reducing Crusader susceptibility to smart/guided top and horizontal attack threats and characterized methods of reducing system vulnerability to ballistic and non-ballistic threats. Susceptibility reduction tracking, and defeating both direct and indirect fire threats. Crusader vulnerability reduction activities emphasized the following: Development and demonstration of the engage its target), identification of sensor and countermeasure options and performance criteria; and simulation and field tests verifying the operational performance of selected devices. This work, performed in coordination with TACOM Advanced Land Combat efforts, developed close-in self-protection concepts capable of detecting, potential to compartmentalize propellant and 155mm HE projectiles; generation of ballistic shock specifications; definition of interior shielding technologies providing integrated radiation and spill protection for the crew; maturation and demonstration of NBC collective protection technologies; and demonstration of standoff chemical agent detection. This work provided the basis for development of a performance specification supporting Crusader.

FY 1995 Accomplishments:

- Top attack protection, propellant compartmentation, NBC protection, supplemental ballistic protection, requirements analysis.
 - Support to Crusader Product Development Teams. 2694
- Container testing, ballistic modeling, vulnerability modeling. 1306 8121

FY 1996 Planned Program: Program not funded in FY 1996

FY 1997 Planned Program: Program not funded in FY 1997

RDT&E BUDGET ITEM JUST	r item		FICATI	ON SHEET	FICATION SHEET (R-2 Exhibit)		DATE March 1996	966
BUDGET ACTIVITY 4 - Demonstration and Validation				PE NUMBER AND TITLE 0603645A Armc Advanced Deve	PE NUMBER AND TITLE 0603645A Armored Systems Modernization - Advanced Development	s Moderniz	ation -	PROJECT DB87
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995 Adjustment to FY 1996 Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current President's Budget Submit			FY 1995 8121 8121	FY 1996	FY 1997			
C. Other Program Funding Summary: None	ne							
D. Schedule Profile		FY 1995	_	FY 1996	FY 1997	997		
Complete NBCCS Materials Compatibility Study Sign Contract Definitize Contract Complete Top Attack Contract	· * * *	*	* *		-			
*Milestone completed								
Project DB87				Page 3 of 18 Pages		Exhibi	Exhibit R-2 (PE 0603645A)	2
				476				





RDT&E PROGRAM ELEMENT/PROJ	ECT CC	ST BR	EAKDO	PROJECT COST BREAKDOWN (R-3)	3)	DATE N	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation	9 O	PENUMBER AND TITLE 0603645A Armo Advanced Deve	PE NUMBER AND TITLE 0603645A Armored Sys Advanced Development	PENUMBER AND TITLE 0603645A Armored Systems Modernization Advanced Development	ns Moder	nization -	PROJECT DB87	ЕСТ ;7
A. Project Cost Breakdown Product Development Support and Management Testing and Evaluation	FY 1995 4121 2694 1306 8121	FY 1996	960	FY 1997				
B. Budget Acquisition History and Planning Information								
Performing Organizations Contractor or Contract Government Method/Type Award or Performing Pr Performing or Funding Obligation Activity C Activity Vehicle Date EAC	Project Office F EAC EX	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	Total <u>Program</u>	
		17646	4121			0	21767	
Support and Management Organizations		4270	2694			0	6964	
Test and Evaluation Organizations		391	1306			0	1697	
Government Furnished Property: None								
Subtotal Product Development Subtotal Support and Management		17696 4270	4121 2694			0 0	21767 6964	
Subtotal Test and Evaluation Total Project		391 22307	1306 8121			0 0	1697 30428	
Project DB87	Page 4	Page 4 of 18 Pages	6		Ext	Exhibit R-3 (PE 0603645A))603645A)	

RDT&E BUDGET ITEM JUS	EM JUS		FION SE	HEET (R	FIFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NI 060 Adv	PE NUMBER AND TITLE 0603645A Armo Advanced Deve	PENUMBER AND TITLE 0603645A Armored Systems Modernization Advanced Development	Systems ent	Moderni	zation -	I	РРОЈЕСТ DB88
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DB88 Crusader Resupply Vehicle - Advanced Development	38338	59386	0	0	0	0	0		0	140833

formerly called Advanced Field Artillery System (AFAS). The RSV will support the decentralized and continuous operations of the SPH thereby increasing SPH mission ballistic and non-ballistic survivability features. Mobility improvements features will allow the Crusader system to keep up with the maneuver force. Beginning in FY97 A. Mission Description and Budget Item Justification: Project DB88 - Crusader RSV - AD, formerly called Future Armored Resupply Vehicle (FARV): The present effectiveness. Automation and robotics in the RSV will allow crew reduction resulting in life cycle cost benefits over the current system. The RSV will have increased 55mm artillery system has a lightly protected resupply vehicle with limited payload/mobility and exposed crews during rearm/resupply operations. Resupply Vehicle (RSV) will increase ammunition payload and will provide automated, rapid transfer of ammunition, propellant and fuel to the Crusader self-propelled howitzer (SPH), this project merges into a single project along with D409 to form D505 Crusader - AD, PE 063854A, Artillery Systems Advanced Development.

FY 1995 Accomplishments:

- Initiation of the Requirements and Analysis, Component Maturation (RA/CM).
- 365 Completion of Martin Marietta, 155mm Integrated propellant Resupply efforts.
- Maturation of Critical Resupply Technology in the areas of robotic handling, ammunition upload, identification and continuation of product 7775
 - development team, matrix and core management support efforts for the propellant transfer system.

Total 38338

FY 1996 Planned Program:

- 48799 Development Phase I/II Contract Efforts. Down select to SP propellant due to affordability and risk concerns. Conduct SFR and commence
- Continued Product Development Team support, management of the propellant technology and other management support.
 - 2227 Continued Management Support.

preliminary design.

- 1296 SBIR/STTR.
- 167 Revised Economic Assumptions not available for execution

otal 593

FY 1997 Planned Program: Program not funded in FY 1997

Project DB88



Page 5 of 18 Pages

Exhibit R-2 (PE 0603645A)



RDT&E BUDGET	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ION SHEET (F	R-2 Exhib	it)	DATE	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUMBER AND TITLE 0603645A Armored Sys Advanced Development	TITLE Armored S evelopme	ystems I	D TITLE Armored Systems Modernization Development	ı	PROJECT DB88
 B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) 	<u>FY 1995</u> 38338	FY 1996 71054	FY 1997				
Adjustment to F Y 1995 Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since		59987 -601					
FY 1996 President's Budget Current President's Budget Submit	38338	59386					
Change Summary Explanation: Fig. 4 4 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2	e result of Revised Economic	Assumptions (-601).					
C. Other Program Funding Summary	FY 1995 FY 1996	FY 1997 FY 1998	FY 1999	FY 2000	FY 2001	To Comp	Total Cost
RD 1E, A Budget Activity 5 PE 0604854A, Project D503 Crusader - ED				318077	492367	804200	1614644
KD1E, A Budget Activity 5 PE 0604854A, Project D2KT Crusader Onerational Test			482	1147	95	28600	30324
RDTE, A Budget Activity 4 PE 0603854A, Project D505 Crusader - AD		255916 324285	296054	42983		0	919238
D. Schedule Profile	FY 1995 1 2 3 4	FY 1996 1 2 3	4	FY 1997 2 3	3 4		
Award Contract Definitization Phase of Development Phases I & II Contract Award Requirements Analysis and Maturation Phase of Development Phases I/II Contract	* *×						
Phases I/II Contract	*X						
Project DB88		Page 6 of 18 Pages			Exhibit R-2	Exhibit R-2 (PE 0603645A)	

RDT&E BUDGET ITEM JUSTIFICATIO	FICATION SHEET (R-2 Exhibit) DATE March 1996	96
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603645A Armored Systems Modernization - I Advanced Development	PROJECT DB88
D. Schedule Profile	FY 1996 FY 1997	
n	7	
* Milestone completed		
Project DB88	Page 7 of 18 Pages Exhibit R-2 (PE 0603645A)	
	480	





RDT8	LE PROG	RAM ELE	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	OJECT (SOST BF	REAKDO	WN (R-	3)	DATE	March 1996	.
BUDGET ACTIVITY 4 - Demonstration and Validation	on and Vali	idation			PE NUMBER AND TITLE 0603645A Armo Advanced Deve	PE NUMBER AND TITLE 0603645A Armored Sys Advanced Development	on⊓le Armored Systems Modernization Development	ns Moder	nization -	я Ю	PROJECT DB88
A. Project Cost Breakdown Development RA/CM Phase I & II Contract Contractor Engineering Support Government Engineering Support Program Management Support Revised Economic Assumptions Total	Ikdown Phase I & II Cc g Support ing Support Support umptions	ontract		FY 1995 20198 1862 14784 1494 38338	EY] 48	FY 1996 48799 750 6147 2227 1463 59386	FY 1997				
B. Budget Acquisition History and Planning Information	n History and	Planning Infe	<u>ormation</u>								
Performing Organizations Contractor or Government Metho	ations Contract Method/Type	Award or	Performing	Project	Total						
Performing Activity	or Funding Vehicle	Obligation <u>Date</u>	Activity EAC	Office <u>EAC</u>	Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	Total <u>Program</u>	
t Developmen Jefense,	t Organization SS/CPIF	is Sep 94	TBD	TBD	2500	20198	48799		0	71497	
Limited Partnership Martin Marietta,	SS/CPFF	Mar 93	5565	5565	5200	365			0	5565	***
VT catinny	PO					1000	1000		0	2000	
Arsenal, NJ Support and Management Organizations Dept of Energy - MIPR Oak Ridge Nat'l	ement Organiza MIPR	ations			12128	5159			0	17287	
Labs, TN PM-Crusader, Picatinny Arsenal,					1357	1494	2227		0	5078	
_	PO				11514	6124	3617		0	21255	
Project DB88				Page	Page 8 of 18 Pages	es S		Ext	Exhibit R-3 (PE 0603645A)	0603645A)	

RDT&E PROGRAM ELEMENT/P	JGRAM EL	EMENT/PR	OJECT	COST BI	REAKDO	ROJECT COST BREAKDOWN (R-3)	<u></u>	DATE	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation	Validation			PE NUMBER AND TITLE 0603645A Armo Advanced Deve	PE NUMBER AND TITLE 0603645A Armored Sys Advanced Development	БТІТІЕ Armored Systems Modernization Development	ns Moder		PROJECT DB88	<u></u>
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle Other Field PO Activities	rpe Award or 3 Obligation <u>Date</u>	Performing Activity EAC	Project Office <u>EAC</u>	Total Prior to FY 1995 3102	FY 1995 2501 1497	FY 1996 1530 750	FY 1997	Budget to Complete 0	Total Program 7133	
contracts Test and Evaluation Organizations TECOM, Yuma PO Proving Grds, AZ Government Furnished Property: None	iions rty: None									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation SBIR/STTR Revised Economic Assumptions Total Project	nt .			7700 35409 0 43109	21563 16775 0 38338	49799 8124 0 1296 167 59386		00000	79062 60308 0 1296 167 140833	
Project DB88			Pa	Page 9 of 18 Pages	ges		Ä	Exhibit R-3 (PE 0603645A)	0603645A)	





RDT&E BUDGET ITEM JUS		TIFICAT	ION S	HEET (F	TIFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NU 060 Adv	PE NUMBER AND TITLE 0603645A Armo Advanced Deve	PE NUMBER AND TITLE 0603645A Armored Systems Modernization Advanced Development	Systems ent	Moderni	zation -	.	PROJECT DB98
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DB98 Component Development	9528	0	0	0	0	0	0		0	40732
A. Mission Description and Budget Item Justification: Project DB98 - Component Development: This project developed and matured certain mobility technologies specifically required for the Crusader, to include advanced torsion bar suspension. Project completed in FY 1995.	ation: Projec	t DB98 - Cc n bar suspen	mponent D sion. Proje	evelopment: ct completec	This proje I in FY 1995	ct developed	and mature	d certain mo	obility techno	logies
FY 1995 Accomplishments:										
FY 1996 Planned Program: Program not funded in FY 1996	ı FY 1996									
FY 1997 Planned Program: Program not funded in FY 1997	ı FY 1997									
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995 Appropriated Amount (FY 1996) Adjustment to FY 1996		<u>FY 1995</u> 9528	· ·	FY 1996	FY 1997					
Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current President's Budget Submit		9528	~							
C. Other Program Funding Summary: None										

Page 10 of 18 Pages

Project DB98

Exhibit R-2 (PE 0603645A)

RDT&E BU	RDT&E BUDGET ITEM JUSTIFICATION	FICATION SHEET (R-2 Exhibit)		DATE March 1996	6
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUMBER AND TITLE 0603645A Armored Systems Modernization - Advanced Development	ystems Moderni: nt		PROJECT DB98
D. Schedule Profile	FY 1995				
ATR Testing Milestone I Decision	X* X* X* X*	2 3 4 1	2 3		
* Milestone completed.					
Project DB98	Page	Page 11 of 18 Pages	Exhib	Exhibit R-2 (PE 0603645A)	
		484			





RDT&E PROGRAM ELEMENT/PROJECT		REAKD	COST BREAKDOWN (R-3)	<u>@</u>	DATE	March 1996	
ВИВОЕТ АСТІVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603645A Armo Advanced Deve	PE NUMBER AND TITLE 0603645A Armored Sys Advanced Development	ठागाट Armored Systems Modernization Development	ns Moder	nization -	PROJECT DB98	F.
A. Project Cost Breakdown Product Development Support to Management Test & Evaluation Total	FY 1995 7289 2239 0 9528	EY 1996	FY 1997				
B. Budget Acquisition History and Planning Information							
Performing Organizations Contract Contract Government Method/Type Award or Performing Project Performing or Funding Obligation Activity Office Activity Vehicle Date EAC EAC	ct Total se Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	Total <u>Program</u>	
rrounct Development Organizations	29401	7289			0	36690	
Support and Management Organizations	1630	2239			0	3869	
Test and Evaluation Organizations	173				0	173	
Government Furnished Property: None							
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	29401 1630 173 31204	7289 2239 0 9528			0000	36690 3869 173 40732	
Project DB98	Page 12 of 18 Pages	ses		EX	Exhibit R-3 (PE 0603645A))603645A)	

	RDT&E BUDGET ITEM JUST	EM JUS	TIFICA.	TION SE	HEET (R	IIFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	
BUDGET ACTIVITY 4 - Demonstra	вирдет астімту 4 - Demonstration and Validation			PE NU 060 Adv	PE NUMBER AND TITLE 0603645A Armo Advanced Deve	PE NUMBER AND TITLE 0603645A Armored Sys Advanced Development	PE NUMBER AND TITLE 0603645A Armored Systems Modernization - Advanced Development	Moderni	zation -		РКОЈЕСТ D409
	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D409 Crusader Self Development	Crusader Self-Propelled Howitzer - Advanced Development	112840	126866	0	0	0	0	0		0	537489
A. Mission Descripropelled howitzer force. This project advanced propellan capabilities in range Beginning in FY97	A. Mission Description and Budget Item Justification: Project D409 - Crusader SPH - AD, formerly called Advanced Field Artillery System (AFAS): Crusader self-propelled howitzer (SPH) is the Army's next generation 155mm self-propelled howitzer system providing high payoff technology capabilities in support of the maneuver force. This project develops AFAS Advanced Technology Demonstrator (ATD); matures the alternative gun technology; matures packaging and formulation of the advanced propellant; matures the fire control/artillery componentry; and, provides funding for the Development Phases I/II efforts. SPH requirements include leap-ahead capabilities in range, rate-of-fire, sustained fire, time-on-target, accuracy, responsiveness, automated ammunition handling/resupply, reduced crew size and survivability. Beginning in FY97 this project merges into a single project along with DB88 to form D505 Crusader - AD, PE 0603854A, Artillery Systems Advanced Development.	ation: Projection 155mm nology Demcy component y-contarget, approject along	t D409 - Cr self-propelle nnstrator (A ry; and, pro ccuracy, resj with DB88	usader SPH · id howitzer s (D); matures vides fundin, ponsiveness, to form D5(- AD, forme system provi s the alternat g for the De automated automated to 55 Crusader	rly called Acding high psive gun tech velopment Pammunition - AD, PE 06	dvanced Fiel tyoff techno mology; mat hases I/II ef handling/res 03854A, At	ld Artillery S logy capabil ures packag forts. SPH r supply, redu	ities in supping and form equirements ced crew size ms Advance ms Advance	: D409 - Crusader SPH - AD, formerly called Advanced Field Artillery System (AFAS): Crusader self-elf-propelled howitzer system providing high payoff technology capabilities in support of the maneuver instrator (ATD); matures the alternative gun technology; matures packaging and formulation of the y; and, provides funding for the Development Phases I/II efforts. SPH requirements include leap-aheac curacy, responsiveness, automated ammunition handling/resupply, reduced crew size and survivability. with DB88 to form D505 Crusader - AD, PE 0603854A, Artillery Systems Advanced Development.	euver euver ahead oility.
FY 1995 Accomplishments: • 105076 Product Develo	lishments:Product Development - Awarded Requirements Analysis and Maturation portion of the Development Phases I/II contract, as well as the balance of the Development Phase I contract efforts. Continued efforts in support of the Advanced Technology Demonstration and technical maturation of critical components.	ded Requirer t efforts. Co	nents Analy ttinued effo	sis and Matu rts in suppor	ıration portik t of the Adv	on of the Der anced Techn	velopment P 10logy Demo	'hases I/II co onstration an	intract, as we	ents Analysis and Maturation portion of the Development Phases I/II contract, as well as the balance of the tinued efforts in support of the Advanced Technology Demonstration and technical maturation of critical	nce of the critical
• 6330 • 1434 Total 112840		Continued pro st Estimate (I eted ATD int	ject manage GCE) and tl egration. Co	ment efforts he Technical ontinued Arr	, to include : Evaluation nament/Mot	scientific and for the Deve int reliability	d engineerin slopment Ph y testing and	g manageme ases I/II cont Insensitive	nt services. tract. munitions te	Completed b	oth the
FY 1996 Planned Program:	Program: Program: Product Development - Continue developmental efforts under the Development Phases I/II contract. Downselect to SP propellant due to affordability and risk concerns. Conduct SFR and commence preliminary design. Support and Management - Continue project management efforts, to include scientific and engineering management services. Product Design contractor DT&E under the Development Phases I/II contract. SBIR/STTR Revised Economic Assumptions not available for execution.	inue developi SFR and com Sontinue proj contractor DT ons not avails	nental effor mence preli ect managen &E under t	ts under the minary designent efforts, he Developn rution.	Developmer gn. to include sc nent Phases	nt Phases I/II cientific and I/II contract.	Contract. Lengineering	ownselect to managemer	o SP propella it services.	ant due to aff	ordability



Page 13 of 18 Pages

FY 1997 Planned Program: Program not funded in FY 1997.

Project D409

Exhibit R-2 (PE 0603645A)



RDT&E BUDGET ITEM JUS		TIFICATION SHEET (R-2 Exhibit)	IEET (R	-2 Exhit	oit)	DATE	Е Магсh 1996	966
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NU 060 Adv	PENUMBER AND TITLE 0603645A Armored System Advanced Development	ı⊤∟E rmored S evelopme	systems ent	PENUMBER AND TITLE 0603645A Armored Systems Modernization Advanced Development	ion -	Р ROJE СТ D409
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995)	<u>FY 1995</u> 112840		FY 1996 130459	FY 1997				
Adjustment to FY 1995 Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since		. 12	128149 -1283					
FY 1996 President's Budget Current President's Budget Submit	112840		126866					
Change Summary Explanation: Funding: FY 96 Adjustments are the result of Revised Economic Assumptions (-1283).	Revised Economic	Assumptions (.	-1283).					
	FY 1995 FY 1996	6 FY 1997	FY 1998	FY 1999	FY 2000 318077	FY 2001 492367	To Compl 804200	To Total npl Cost 200 1614644
PE 0604854A, Project D503 Crusader - ED RDTE, A Budget Activity 5 PE 0604854A, Project D2KT Crusader				482	1147	95	28600	0 30324
Operational Test RDTE, A Budget Activity 4		255916	324285	296054	42983			0 919238
PE 0603834A, Froject D505 Crusader - AD RDTE, A Budget Activity 5 PE 0604645A, Project D175 MOFA	6109 6215	5 6726		4220				0 40836
Project D409		Page 14 of 18 Pages	18 Pages			Exhibit R-	Exhibit R-2 (PE 0603645A)	(t

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ET ITEN	JUSTI	FICATI	39HS NC	T (R-2 E	xhibit		DATE	March 1996	966
BUDGET ACTIVITY 4 - Demonstration and Validation	uc			PE NUMBE 060364 Advanc	PE NUMBER AND TITLE 0603645A Armored Systan Advanced Development	red Sy:	PE NUMBER AND TITLE 0603645A Armored Systems Modernization Advanced Development	dernizatic	- uc	РРОЈЕСТ D409
D. Schedule Profile	-	FY 1995	_	FY 1996	3 4	, ,	FY 1997	4		
Award Contract Definitization Phase of Development Phases I/II Contract Award Requirements Analysis and Maturation Phase of Development Phases I/II Contract Milestone I Review Award Development Phases I/II Contract Conduct SFR and begin preliminary design * Milestone completed.	· - * * *		*					-		
Project D409	1		F	Page 15 of 18 Pages	ages			Exhibit R-2	Exhibit R-2 (PE 0603645A)	(P3





RDT	RDT&E PROGRAM ELEMENT	RAM ELI		PROJECT C	SOST B	REAKD(COST BREAKDOWN (R-3)	3)	DATE	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation	ion and Val	idation			PE NUMBER AND TITLE 0603645A Armo Advanced Deve	PE NUMBER AND TITLE 0603645A Armored Sys Advanced Development	ऽमास Armored Systems Modernization Development	ms Moder	nization -	R Q	РRОЈЕСТ D409
A. Project Cost Breakdown Product Development Support and Management Test and Evaluation Revised Economic Assumptions Total	eakdown tt ment .ssumptions			EY 1995 105076 6330 1434 112840	ᄄᆀ	FY 1996 109897 9471 4356 3142 126866	FY 1997				
B. Budget Acquisition History and Planning Information	ion History and	Planning Inf	ormation								
Performing Organizations Contractor or Contra	zations Contract										
Government Performing	Method/Type or Funding	Award or Obligation	Performing Activity	Project Office	Total Prior to				Budget to	Total	
<u>Activity Vehicle Product Develonment Organizations </u>	<u>Vehicle</u> nt Organization	<u>Date</u> 18	EAC	EAC	FY 1995	FY 1995	FY 1996	FY 1997	Complete	Program	
United Defense,	Comp/CPIF	May 91	76173	76173	76173				0	76173	
Minneapolis, MN Martin Marietta,	SS/CPIF/CPF	Jan 92	TBD	100799	97299	3500			0	100799	
Pittsfield, MA United Defense,	F SS/CPIF	Sep 94	TBD	TBD	2000	78997	96632		0	180629	
Minneapolis, MN AMCCOM,					49127	13915	7527		0	70569	
Picatinny Arsenal, NJ, Watervliet Arsenal, NY, Rock											
Island Arsenal, IL ARL, Aberdeen					9304	2495	1852		0	13651	
Proving Grd, MD Watertown, MA Olin, Charleston, TN	SS/FFP	Sep 93	1988	1988	1988				0	1988	
Project D409				Page	Page 16 of 18 Pages	ges		Ä	Exhibit R-3 (PE 0603645A)	0603645A)	

RDT	RDT&E PROGRAM ELEMENT/P	RAM EL	MENT/PR	ROJECT	COST B	REAKDO	COST BREAKDOWN (R-3)	<u>@</u>	DATE N	March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	ion and Val	idation			PE NUMBER AND TITLE 0603645A Armo Advanced Deve	PE NUMBER AND TITLE 0603645A Armored Sys Advanced Development	ЭТІТІЕ Armored Systems Modernization Development	ns Moder	nization -	PROJECT D409
Contractor or Government	Contract Method/Type	Award or	Performing	Project	Total					
Performing	or Funding	Obligation	Activity	Office	Prior to	9001	7001 751	1001	Budget to	Total
Activity Grumman, Beth	Vehicle	<u>Date</u> Nov 93	4275	EAC 4275	FY 1995 4275	FY 1995	FY 1996	FY 1997	Complete 0	<u>Frogram</u> 4275
Page, NY Martin Marietta,	Comp/CPFF	Jan 93	4204	4204	4184	20			0	4204
Pittsfield, MA LB&M, Lawton,	Comp/CPFF	Feb 93	1806	1806	1806				0	1806
OK Various other					17372	6149	3886		0	27407
OGA's and Contractors										
Support and Management Organizations PM Crusader,	gement Organiz	zations			6901	2471	3681		0	13053
Picatinny Arsenal,										
AMCCOM,					9513	3659	5440		0	18612
Picatinny Arsenal,										
TRW, Redondo					3503				0	3503
Beach, CA					1412	200	350		C	1962
and Contractors)	
Test and Evaluation Organizations	n Organization	S			,	,			(
TECOM, Yuma Proving Grds, AZ,					3451	1434	4356		0	9241
CSTA, Aberdeen										
Proving Grds, MD Morton Thiokol,	SS/FPI	May 93	3307	3307	3307				0	3307
Elkton, MD	ret oo	74	0110	2170	2170				c	2160
Olin, Charleston, TN	55/FP1	May 93	3108	3108	3108				>	2100
Project D409				Pag	Page 17 of 18 Pages	sast		Ē	Exhibit R-3 (PE 0603645A)	0603645A)





RDT&E PRO	PROGRAM ELEMENT/R	EMENT/PR	PROJECT	COST B	REAKDO	COST BREAKDOWN (R-3)	3)	DATE	March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	'alidation	:		PE NUMBER 060364	PE NUMBER AND TITLE 0603645A Armored Sys Advanced Development	PE NUMBER AND TITLE 0603645A Armored Systems Modernization Advanced Development	ns Moder	nization -	PROJECT D409
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle TBD-Ammo Purchase	oe Award or Obligation <u>Date</u> TBD	Performing Activity <u>EAC</u> TBD	Project Office <u>EAC</u> TBD	Total Prior to <u>FY 1995</u> N/A	FY 1995	FY 1996	FY 1997	Budget to Complete	Total Program
Government Furnished Property: None	y: None								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation SBIR/STTR Revised Economic Assumptions Total Project	.			266528 21329 9926 297783	105076 6330 1434 112840	109897 9471 4356 2786 356 126866		00000	481501 37130 15716 2786 356 537489
Project D409			Pag	Page 18 of 18 Pages	iges			Exhibit R-3 (PE 0603645A)	0603645A)

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA	TION SI	TIFICATION SHEET (R-2 Exhibit)	ال×2 Exhi	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NI 060 Ad	PENUMBER AND TITLE 0603649A Engineering Modification Equipment - Advanced Development	ппе Ingineeri evelopm	ng Modií ent	ication E	quipmer		PROJECT DG24
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost

full-width mine clearing blade with reactive depth control, a power driven excavating arm, and an armored commander's control station. The M1 Breacher will provide the A. Mission Description and Budget Item Justification: The M1 Breacher will be developed around the M1 Abrams tank chassis and will integrate a versatile/survivable Combat Engineer with significantly improved mission effectiveness and crew/vehicle survivability while clearing minefields and removing complex natural and man-made element/project is correctly placed in Budget Activity 4, focusing on efforts associated with advanced technology development to include demonstration and validation in obstacles at the forward edge of the battlefield. The M1 Breacher will be capable of moving with, and will be as survivable as, the force it is supporting. This program the areas of mine clearing blade reactive depth control, power bus, vetronics, survivability, and hydraulics. The project transitioned to PE 0604649A, DG25, for the Engineering and Manufacturing Development (EMD) phase of the acquisition life cycle in FY 1996.

68706

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0

0

0

0

9839

15414

DG24 M1 Breacher

profile required by the Operational Requirements Document. Through the production buy the vehicle will be sole sourced to United Defense Limited Partnership (UDLP), leveraged the accomplishments of the Combat Mobility Vehicle Advanced Technology Transition Demonstrator (CMV-ATTD) contract. Design modifications have been Acquisition Strategy: The M1 Breacher, built around the M1 Abrams Tank chassis, utilizes a streamlined acquisition strategy. Research and development efforts have written into the Advanced Development contract for the powertrain and other chassis components/systems necessary to insure that the Breacher will meet the mission Ground Systems Division, York, PA.

FY 1995 Accomplishments:

- 7554 Completed Prototype Fabrication
- 789 Conducted Contractor Shakedown Testing and Training
- Completed Preliminary Draft Equipment Publications and Integrated Logistics Support Initiatives 2593
 - 1210 Began Government Development Testing
- 2179 Provided Government/Contractor Program Management Support
- Began Preparation of Statement of Work (SOW), Purchase Description (PD) and Other Contract Documents in Support of Next Contract
- al 1541

Project DG24

Page 1 of 5 Pages

Exhibit R-2 (PE 0603649A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R	-2 Exhibit)		DATE March 1996	1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603649A Engineering Advanced Development	D TITLE Engineering Modification Equipment Development	odification	Equipment -	РКОЈЕСТ DG24
 FY 1996 Planned Program: 1452 Complete Government Development Testing and Conduct Early User Testing 6273 Refine Design, Validate Logistics Functions, and Apply Engineering Changes 1867 Provide Government/Contractor Program Management Support 219 SBIR/STTR 28 Revised Economic Assumption not available for execution Total 9839 	arly User Testing gineering Changes port				
FY 1997 Planned Program: Program not funded in FY 1997					
B. Project Change Summary Previous President's Budget (FY 1996) 15726 Appropriated Amount (FY 1995) 15414	<u>FY 1996</u> 5615	FY 1997 0			
Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996	66-				
President's Budget Submit Current President's Budget Submit	6836	0			
Change Summary Explanation: Funding: FY 1996 reflects a reduction of \$99 for Revised Economic Assumptions. Funding: FY 1996 reflects a reduction of \$99 for Revised Economic Assumptions. Schedule: Completion of testing is currently scheduled for 3Q96. Contract completion is currently scheduled for end of 3Q96. Schedule: Completion of testing is currently scheduled for 3Q96. Contract completion of testing is suest to insure a "go" decision at Milestone II to include vehicle weight reduction, Test Incident Report (TIR) rechnical: Breacher contractor is working on design issues to insure a "go" decision at Milestone II to include vehicle weight reduction, Test Incident Report (TIR) corrective actions, update of vetronics architecture, Automative Fire Extinguisher System (AFES) agent replacement, crew station layout and others.	umptions. ct completion is cur o" decision at Miles guisher System (AI	ently scheduled fo tone II to include v ES) agent replace	r end of 3Q96. rehicle weight 1 nent, crew stat	eduction, Test Inciderion layout and others.	ıt Report (TIR)
C. Other Program Funding Summary FY 1995 FY 1996 FX	FY 1997 FY 1998	FY 1999 FY 2000	000 FY 2001		To Total Compl Cost
RDTE, A Budget Activity 5 PE 0604649A, Project DG25, M1 Breacher Dev PA, WTCV, GZ3200, Breacher MOD PA, WTCV, GE0175, Breacher Spares	33337 20032 25507	8530 14 76979 92 1150 2	14451 6977 92793 97940 2258 2077		93991 Cont'd Cont'd Cont'd Cont'd
Project DG24	Page 2 of 5 Pages		Exh	Exhibit R-2 (PE 0603649A)	9A)
	707				

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603649A Engineering Modification Equipment Advanced Development	PROJECT quipment - DG24
Y 1995	Y 1996 FY 1997	8661 A
Conduct Development and Early User Testing Conduct Milestone II Review Award Engineering and Manufacturing Development (EMD) Contract	2 3 4 2 3 X X X X X X X X X X X X X X X X X X	2 2 4
* Milestone Completed		
Project DG24	Page 3 of 5 Pages	Exhibit R-2 (PE 0603649A)





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	EMENT/PR	OJECT	COST BI	ZEAKDC	WN (R-	3)	DATE March 1996	96
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NUMBER AND TITLE 0603649A Engi	PE NUMBER AND TITLE 0603649A Engineering I Advanced Development	ering Mo pment	dification E	DE NUMBER AND TITLE 0603649A Engineering Modification Equipment - Advanced Development	Р ROJECT DG24
A. Project Cost Breakdown Development Engineering Logistics Support System Test & Evaluation System Project Management SBIR/STTR and Revised Economic Assumptions not available for execution Total	, ot available	FY 1995 7554 2593 1999 3268	五	EY 1996 4677 1596 1452 1867 247	FY 1997			
B. Budget Acquisition History and Planning Information	ormation							
Performing Organizations Contractor or Contract Government Method/Type Award or Performing or Funding Obligation Activity Vehicle Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	Total Program
evelopment Organization ense, SS-CPIF	56915	56915	38785	11163	<i>L</i> 969			56915
York, PA Other Contracts Various Contracts Various			247	398	322			<i>L</i> 96
Support and Management Organizations TACOM			3091	1810	1152			6053
warren, MI ANAD			125	125				250
Anniston, AL Other Gov't			710	515	185			1410
Agencies Contract Support to Milestone Rev				230				230
Project DG24		Pa	Page 4 of 5 Pages	Se		Exhik	Exhibit R-3 (PE 0603649A)	

RDT&E PROGRAM ELEMENT/P	OGRA	MELE	MENT/PR	OJECT	COST BE	REAKDC	ROJECT COST BREAKDOWN (R-3)	<u>~</u>	DATE March 1996	1996	
BUDGET ACTIVITY 4 - Demonstration and Validation	Validat	ion			PE NUMBER AND TITLE 0603649A Engi	PE NUMBER AND TITLE 0603649A Engineering I Advanced Development	ering Mo	dification	ь тіті. Engineering Modification Equipment - Development	PROJECT DG24	лест 24
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle SBIR/STTR and Revised Economic		Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to FY 1995	FY 1995	FY 1996 247	FY 1997	Budget to Complete		Total Program 247
Assumptions Test and Evaluation Organizations TECOM APG, MD	ations				336	520	285				1141
Government Furnished Property Contract Method/Type Item or Funding Description Vehicle Product Development Property TACOM	0	Award or Obligation <u>Date</u>	Delivery <u>Date</u>		Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete		Total Program
Warren, MI Requisitions Various Support and Management Property: None Test and Evaluation Property TACOM Requisitions Various Warren, MI	ions Varroperty: N y ions Va	Various : None Various	Various Various		159	653	681				159
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	t nent				39191 3926 336 43453	11561 2680 1173 15414	7289 1584 966 9839				58041 8190 2475 68706
Project DG24				P ₂	Page 5 of 5 Pages	sa.		Ex	Exhibit R-3 (PE 0603649A)	49A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA.	TION S	HEET (R	≀-2 Exhi	bit)		DATE M	March 1996	ထ
BUDGET ACTIVITY 4 - Demonstration and Validation		:	PE NI 060	PE NUMBER AND TITLE 0603653A Adva	E NUMBER AND TITLE 0603653A Advanced Tank Armament System	Tank Ar	mament	System		РRОЈЕСТ DB99
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DB99 Advanced Tank Armament System	4773	9683	9639	9896	696	9552	9475		Continuing	Continuing Continuing

Army. We were able to see, hit and kill the enemy long before they were even aware of our presence. The goal of the Advanced Tank Armament System (ATAS) program is A. Mission Description and Budget Item Justification Our success in Desert Storm was due in large part to the superiority of our armament systems over those of the Iraqi to maintain our superiority over increasingly more capable future enemy tanks. The ATAS program is one of the principal programs supporting tank lethality improvements. The program is developing and demonstrating a number of key gun and fire control technologies which offer significant payoffs in lethality for the current tank fleet as well as the next upgrade to the M1A2 Abrams tank.

The ATAS Program has two main phases. Phase I develops and demonstrates in FY 97 autotarget tracking technology that is applicable to the current M1 Abrams series of Gunners to perform proficiently. Phase II develops and matures a highly lethal tank main gun, the XM291, that can kill advanced enemy tanks at long range. Phase II also system. Together these components with the XM291 gun allow the tank crew to engage enemy targets at increased ranges, faster and more accurately. These components battlefield targets. Phase I technology, when applied to tank training devices, will reduce tank crew training costs by reducing the amount of training necessary for new Equilibrated Gun Turret Drive System, an advanced tank main gun stabilization system, improved ballistics, a target state estimating system and an embedded training tanks. Phase I is a requirements oriented, Combat Developer (User) directed program that increases tank lethality by allowing the tank crew to quickly kill enemy develops a compact automatic ammunition loader as well as advanced fire control system components consisting of a Continuous Muzzle Reference System, an will be tested on the M1A2 SEP tank for a technology demonstration in FY 00.

Demonstration and Validation as defined in Part 3, DoDI.5000.2. The ATAS program is conducting prototyping, testing and early operational assessment of critical tank armament systems, subsystems, and components; identifying cost drivers and alternatives using modeling and simulation, and working with the User representative to The ATAS program is appropriately in Budget Activity 4 - Demonstration and Validation. The activities conducted in the ATAS Program fall under the head of establish performance objectives and identify cost-schedule-performance trade-offs.

authority. The technologies developed and integrated may flow into the next major upgrade or Engineering Change Proposal (ECP) to the current Abrams tank. Several contractors and government agencies are used to develop or integrate existing technologies. Modified Integrated Product Teams (IPTs), not co-located, are composed of Acquisition Strategy: This program is an Acquisition Category III (ACAT III) Program with the Program Executive Officer (PEO) servicing as the milestone decision various Army agencies and contractors.

FY 1995 Accomplishments:

- 1900 Gun Technology Designed and fabricated new gun tube and support structure.
- Phase II Completed Brassboard Demonstration and Brassboard Systems Integration Laboratory. 2873

tal 477.

Project DB99

Page 1 of 5 Pages

Exhibit R-2 (PE 0603653A)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (F		DATE March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603653A Adva	ori⊓LE Advanced Tank Armament System	PROJECT System DB99
 FY 1996 Planned Program: 1600 Gun Technology - continue gun maturation program 900 Phase I - design/fabricate/integrate autotarget tracker hardware/software for M1A2 tank 6982 Phase II - procure objective fire control hardware, begin software integration, initiate turret integration study 174 SBIR/STTR. 27 Revised Economic assumption - not available for execution Total 9683 	ware/software for M oftware integration, n	II A2 tank initiate turret integration study	
 FY 1997 Planned Program: 1650 Gun Technology - continue gun maturation program 600 Phase I - complete autotarget tracker demonstration 7389 Phase II - complete fire control component hardware/software integration, initiate turret integration Total 9639 	ware integration, in	itiate turret integration	
B. Project Change Summary Previous President's Budget Appropriated Value (FY 1995) Adjustments to FY 1995 Appropriated Value Appropriated Amount (FY 1996)	FY 1996 10002 9781	<u>FY 1997</u> 9979	
ır (FY 1997) since FY 1996	86-	-340	
Current President's Budget Change Summary Explanation: Funding: The adjustments in FY 96 and in FY 97 are due primarily to inflation adjustments. Schedule: Alignment based on a revised two phase program that supports M1A2 Systems Enhancement Package.	4773 9683 primarily to inflation adjustments. ram that supports M1A2 Systems 3	9639 Enhancement Package.	
C. Other Program Funding Summary: N/A			
Project DB99	Page 2 of 5 Pages	Exhil	Exhibit R-2 (PE 0603653A)





RDT&E BUDGET	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ION SHEET	(R-2 Exhit	oit)	DATE Marc	March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUMBER AND TITLE 0603653A Adva	4D TITLE Advanced	TITLE Advanced Tank Armament System	ent System	PROJECT DB99
D. Schedule Profile	FY 1995	FY 1996	4	FY 1997	4	
Complete design /fabrication of improved gun support structure (Core Technology) Complete the improved gun stabilization test (Core Technology) Complete Phase II Brassboard Demonstration Complete Phase II Brassboard Systems Integration Lab Complete hardware/software integration for Autotracker Demo (Phase I) Complete Autotracker Demo (Phase I) Complete Autotracker Demonstration (Phase I) Procure Objective Hardware Integrate Gun Maturation Initiate Phase II turret integration only Begin integration of Phase II software with hardware Complete Phase II fire control hardware/ software integration Initiate Turret integration Continue Gun Maturation Continue Gun Maturation		* * * * * * * * * * * * * * * * * * *	- × ×	n	r ×	
Project DB99		Page 3 of 5 Pages		Ш	Exhibit R-2 (PE 0603653A)	653A)

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RDT	RDT&E PROGRAM ELEMENT/P	RAM ELE	EMENT/PR	OJECT O	SOST BF	REAKDO	ROJECT COST BREAKDOWN (R-3)	3)	DATE Marc	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation	ion and Vali	dation			PE NUMBER AND TITLE 0603653A Adva	AND TITLE A Advan	ced Tank	ਮਸਮ Advanced Tank Armament System	t System	PRC	Р ROJECT DB99
A. Project Cost Breakdown Primary Hardware Development/Contractor Primary Hardware Development/Government Quality Assurance Developmental Test & Evaluation Program Management (PM-TMAS/ARDEC) SBIR/STTR Revised Economic Assumption not available for execution Total B. Budget Acquisition History and Planning Information	akdown evelopment/Cont evelopment/Gove & Evaluation at (PM-TMAS/A) ssumption not av	ractor ernment RDEC) ailable for ex	ecution	FY 1995 2473 1600 100 100 500 4773	FY 1996 7282 700 300 600 174 27 27	1996 7282 700 300 600 174 27 9683	FY 1997 6639 2000 300 100 600				
Performing Organizations Contractor or Contra Government Metho Performing or Fur Activity Vehic	cations Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Bud	Budget to Complete	Total Program
Froduct Development Organizations Texas Instruments C-CPFF S Benet Laboratories OGA Hughes Aircraft SS-CPFF J ARDEC OGA	nt Organization C-CPFF OGA SS-CPFF	sep 90 Jan 93	TBD TBD	49600	* * *	2433 1400 40 200	7082 800 100	7900 800 100	000	Cont'd Cont'd Cont'd	Cont'd Cont'd Cont'd
* Under Different PE (0604630A) Support and Management PM-TMAS/	; (0604630A) gement					009	006	739	O	Cont'd	Cont'd
AKDEC Test and Evaluation CSTA SBIR/STTR						100	600	100	0	Cont'd	Cont'd
Rev Eco Assump - not avail for exec Total Project DB99				Pag	Page 4 of 5 Pages	4773	27 9683	9639 Exhi	9 Exhibit R-3 (PE 0603653A)	Cont'd 3653A)	Cont'd





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BR	EAKDO	WN (R-	3)	DATE Ma	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603653A Adva	AND TITLE	ced Tank	D TITLE Advanced Tank Armament System	t System	PR	PROJECT DB99
Government Furnished Property: Not Applicable							
•	Total Prior to	FV 1995	FV 1996	FY 1997	́ д С	Budget to	Total
Subtotal Product Development Subtotal Support and Management		4073	7982	8800 739	K	Cont'd	Cont'd Cont'd
SBIR/STTR Revised Economic Assumption - not available for execution		4773	174 27 9683	9639		Cont'd	Cont'd
Project DB99	Page 5 of 5 Pages			Exhit	Exhibit R-3 (PE 0603653A)	03653A)	

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA-	FIFICATION SHEET (R-2 Exhibit)	IEET (R	-2 Exhil	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NI 0 0 0	PENUMBER AND TITLE 0603713A Army	пте rmy Data	PE NUMBER AND TITLE OG03713A Army Data Distribution System	ıtion Sys	tem		
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	5279	6476	23822	22894	10907	5482	0		0	352832
D370 JTIDS/EPLRS (Formerly Known as PJH-PLRS/ JTIDS Hybrid)	5279	5798	20169	22884	10907	5482	0		0	348491
D2QT EPLRS/JTIDS Operational Test	0	678	3653	10	0	0	0		0	4341

capabilities to the soldier and his unit commander. These projects focus on efforts associated with advanced technology development used to demonstrate general military Mission Description and Budget Item Justification: The Army Data Distribution System (ADDS), which consists of the Enhanced Position Location Reporting System surface vehicle and airborne vehicle user units to achieve range extension. It has been designated specifically to meet the data communications requirements of emerging tactical automated data processing and sensor based systems. The ADDS will provide reliable, real-time, secure, jam-resistant data communications and position location (EPLRS), the Joint Tactical Information Distribution System (JTIDS), and the Near Term Digital Radio (NTDR) provides support to the Army's air defense, fire support, battlefield. It is capable of providing multi-functions, data communications, unit locations and unit identification. The ADDS network automatically utilizes manpack, maneuver control, intelligence and combat service support automated system. Project D370 is capable of "digitizing data messages" that must be transmitted on the utility to include demonstration and validation in the area of Army Data Distribution and are correctly placed in Budget Activity 4.

Page 1 of 9 Pages

Exhibit R-2 (PE 0603713A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION SE	JEET (R	-2 Exhi	bit)		DATE	March 1996)6
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NI 0 90	PE NUMBER AND TITLE 0603713A Army	пте rmy Data	a Distribu	E NUMBER AND TITLE DESTRIBUTION System	em	L 0	РRОЈЕСТ D370
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D370 JTIDS/EPLRS (Formerly Known as PJH-PLRS/ JTIDS Hybrid)	5279	5798	20169	22884	10907	5482	0		0	348491

intelligence and combat service support automated systems, and is capable of "digitizing data messages" that must be transmitted on the battlefield. The project will A. Mission Description and Budget Item Justification: This project provides data distribution support to the Army's air defense, fire support, maneuver control, provide reliable, real-time, secure, jam-resistant data communications and position location capabilities to the soldier and his unit commander. Acquisition Strategy: The EPLRS System Improvement Plan (SIP) is designed to significantly reduce the cost of the radio. A sole source contract was awarded to Hughes Radio. The Multifunctional Information Distribution System (MIDS) program is a Navy managed joint services development program currently viewed as an eventual low Aircraft in September 1994. The Near Term Digital Radio (NTDR) program will follow a non-development item (NDI) approach with an RDTE contract awarded January 1996. An option on this contract can be exercised up to 30 months after Jan 96. Through technology insertion, the NTDR is envisioned to evolve into the Future Digital cost replacement for parts of the JTIDS family of high speed data terminals.

FY 1995 Accomplishments:

- Continued JTIDS Development
- Continued Operational Test (OT) of EPLRS downsized NCS-E 2425
 - JTIDS LCSE 300 5279

FY 1996 Planned Program:

- JTIDS Software Development Completion
- NCS (D) Software Development Completion 1745
- NTDR Program Hardware and Software development 1890
 - Program Management/Test Activities 753
 - SBIR /STTR
- Revised Economic Assumption not available for execution.

Project D370

Page 2 of 9 Pages

Exhibit R-2 (PE 0603713A)

RDT&E BUDGET ITEM JUSTIF	-ICATIOI	IFICATION SHEET (R-2 Exhibit)	۲-2 Exhib	jt)	DATE	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUMBER AND TITLE 0603713A Army	тты Army Data	Distribu	ori⊓LE Army Data Distribution System	PROJEC D370	РRОЈЕСТ D370
FY 1997 Planned Program: 16399 Continue NTDR Program 1570 Program Management Activities (NTDR & MIDS) MIDS Contract Development/Engineering Support 1050 NTDR Testing 650 EPLRS (NCS Downsized) Total 20169	IDS) pport						
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995)	FY 1995 5399 5303	FY 1996 5997	FY 1997 6006				
Adjustments to FT 1993 Appropriated Amount (FY 1996) Adjustments to FY 1996 Adjustments to Budget Year (FY 1997)since FY 1996	† 77-	5856 -58	+14163				
President's Budget Current President's Budget Submit	5279	5798	20169				
Change Summary Explanation: Funding: FY 95 Below threshold reprogramming (-24). FY 96 (-58) the portion of this program that has been proposed for rescission. FY 97 (+14163) increase is due to adjustment to NTDR Program. Schedule: Not Applicable Technical: Not Applicable	as been proposed fo to NTDR Program.	d for rescission. am.					
C. Other Program Funding Summary EY 1995 FOR 2, BU1400 9490	FY 1996 FX 43563	FY 1997 FY 1998 47987 59777	<u>8 FY 1999</u> 7 30408	FY 2000 43686	<u>FY 2001</u> 17264	To Compl cont	Total Cost cont
Project D370	Pa	Page 3 of 9 Pages			Exhibit R-2	Exhibit R-2 (PE 0603713A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603713A Army Data Distribution System	Р R ОЈЕСТ D370
FY 1995	FY 1996 FY 1997	
Complete CL2M LUT LRIP Decision for CL2M Terminals NTDR Award Initiate JTIDS CL2M OT Complete NCS-E(D) OT	* ×	
* Milestone has been completed.		
Project D370	Page 4 of 9 Pages Exhibit R-2 (PE 0603713A)	E 0603713A)

RDT	RDT&E PROGRAM ELEMENT/P	RAM EL	EMENT/PR	ROJECT COST BREAKDOWN (R-3)	SOST BF	REAKDO	WN (R-		DATE March 1996	96
BUDGET ACTIVITY 4 - Demonstration and Validation	ion and Val	idation			PE NUMBER AND TITLE 0603713A Arm)		Data Distr	Data Distribution System	tem	PROJECT D370
A. Project Cost Breakdown Contractor Engineering Support Program Management Support Miscellaneous (Near Term Data Radio) Total	s <mark>akdown</mark> ng Support nt Support Term Data Radi	(o)		FY 1995 3382 1897 0 5279	FY	1996 4924 729 145 5798	FY 1997 17549 1570 1050 20169			
B. Budget Acquisition History and Planning Information	on History and	Planning Inf	<u>formation</u>							
Performing Organizations	rations									
Contractor or	Contract									
Government Performing	Method/Type or Funding	Award or Obligation	Performing Activity	Project Office	Total Prior to				Budget to	Total
Activity	Vehicle	Date	EAC	EAC	FY 1995	FY 1995	FY 1996	FY 1997	Complete	Pro
Product Development Organizations	nt Organization	us								
Hughes Aircraft	SS/CPFF	SEP 92	183364	192110	192110	215	0	0	0	192325
Hughes Aircraft	SS/CPIF	SEP 94	17988	17988	3100	113	0	0	0	3213
Fullerton, CA		0010				Ó	Ć	•	•	,
GEC-Marconi Little Falls, NJ	SS/CPIF	NOV 93	21440	21440	21440	0	0	0	0	21440
TOAD Tobyhanna,	MIPR	JUN 92	25600	25600	25600	0	0	0	0	25600
UNISYS Corp St.	MIPR	MAR 94	3833	3833	3833	200	0	0	0	4333
UNISYS Corp St.	MIPR	MAY 95	1424	1424	1424	1099	0	0	0	2523
Misc	MIPR	TBD			0	1455	1429	200	4400	7784
Venntronix Corp,	MIPR	APR 96	770	770	0	0	420	350	0	
Loral Corp, Eagen,	MIPR	FEB 96	1485	1485	0	0	1185	300	0	1485
ITT Ft Wayne TBD	C/CPIF TBD	JAN 96 TBD	33147 2150	33147 2150	00	00	1890	15399 1000	15585	32874
Project D370				Pas	Page 5 of 9 Pages	Sč		Exhibit	Exhibit R-3 (PE 0603713A))





RD.	RDT&E PROGRAM ELEMENT/PROJECT	RAM ELI	EMENT/PR		COST B	REAKDO	COST BREAKDOWN (R-3)	3) БАТЕ	TE March 1996	966
BUDGET ACTIVITY 4 - Demonstration and Validation	ition and Val	idation			PE NUMBER AND TITLE 0603713A Army	AND TITLE	ोगा∟ Army Data Distribution	ribution System	ε	PROJECT D370
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity FAC	Project Office FAC	Total Prior to FY 1995	FY 1995	FV 1996	FY 1997	Budget to Complete	Total
Support and Management Organizations Misc	agement Organiz	ations			10016	737	0	0		
Misc	MIPR	DEC 95	65	65	0	0	65	0	0	
Misc Misc	MIPR MIPR	MAR 96 Various	25	25	0	0 1165	25 639	0 1570	0 1900	25 25
Test and Evaluation Organizations	on Organizations		9			•	•	•	,	
TEXCOM/EPG FPG	MIPR	MAY 94 MAR 96	19539	19539	19539	-	0 0	0 0	0	19539
TBD	MIPR	MAY 96	13102	13102	0	0	95	1050	11957	131
TBD	MIPR	ТВД							4291	4291
Government Furnished Property N/A	ished Property N	1/A								
Subtotal Product Development	evelopment				247507	3382	4924	17549	21135	(1
Subtotal Support and Management Subtotal Test and Evaluation	nd Management valuation				10916 19539	1897	729 145	1570 1050	1900	17012
Total Project					277962	5279	246	20169	39283	(1)
Project D370				Pa	Page 6 of 9 Pages	32		Exhibit R-	Exhibit R-3 (PE 0603713A)	(

RDT&E BUDGET ITEM JUST	EM JUS	_	FION SE	HEET (R	FICATION SHEET (R-2 Exhibit)	bit)		DATE	March 1996	6
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NI 060	PE NUMBER AND TITLE 0603713A Arm)	E NUMBER AND TITLE 0603713A Army Data Distribution System	a Distribu	ıtion Sys	tem]	PROJECT D2QT
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D2QT EPLRS/JTIDS Operational Test	0	678	3653	10	0	0	0		0	4341

Evaluation (IOT&E) beginning in 1 QTR FY 97. Operational Testing (OT) is conducted under conditions, as close as possible, to those encountered in actual combat with typical user troops trained to employ the system. OPTEC provides Army leadership with an independent test and evaluation of effectiveness and suitability of the system. EPLRS/ITIDS by the Operational Test and Evaluation Command (OPTEC). JTIDS is an Acquisition Category (ACAT) I system with an Initial Operational Test and A. Mission Description and Budget Item Justification: This project finances the direct costs of planning and conducting operational testing and evaluation of the Project D2QT is restructured from within this Program Element (PE 0603713A) and is not a new start.

FY 1995 Accomplishments: Not Applicable

FY 1996 Planned Program:

JTIDS OT Evaluation Planning 498 JTIDS OT Planning 150

OT Unit (Test Players) Support

SBIR/STTR

Revised economic assumptions, not available for execution

Total

FY 1997 Planned Program:

Conduct JTIDS OT 3092

JTIDS OT Evaluation 341

OT Unit (Test Players) Support



Page 7 of 9 Pages

Project D2QT

Exhibit R-2 (PE 0603713A)



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (I		DATE March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603713A Arm)	o π⊓∟E Army Data Distribution System	PROJECT D2QT
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustments to FY 1995 Adjustments to FY 1996 Adjustments to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current President's Budget Submit	FY 1996 697 685 -7	F <u>Y 997</u> 3781 -128	
Change Summary Explanation: Funding: FY 96 (-7) the portion of this program that has been proposed for rescission. FY 97 (-128) decrement due to revised inflation rates	for rescission.		
C. Other Program Funding Summary: N/A			,
D. Schedule Profile 1 2 3 4 Conduct JTIDS OT	FY 1996	FY 1997 X X A T T T T T T T T T T T T	
Project D2QT	Page 8 of 9 Pages	Exhibit	Exhibit R-2 (PE 0603713A)
	003		

RDT&E PROGRAM ELEMENT/PRO	JECT C	ROJECT COST BREAKDOWN (R-3)	OWN (R-	3) DATE	Е March 1996	96
BUDGET ACTIVITY 4 - Demonstration and Validation	-	PE NUMBER AND TITLE 0603713A Army Data Distribution System	: y Data Distr	ibution Syster		PROJECT D2QT
 A. Project Cost Breakdown Operational Test and Evaluation Total 	FY 1995 0	FY 1996 678 678	FY 1997 3653 3653			
B. Budget Acquisition History and Planning Information						- · · · · ·
Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to FY 1995 FY 1995	FY 1996	FY 1997	Budget to Complete	Total <u>Program</u>
Support and Management Organizations: None Test and Evaluation Organizations: OPTEC, FT BLISS MIPR 3/31/96 4488	4488	0	678	3653	10	4341
Government Furnished Property: None Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project			678	3653	10 10	4341
Project D2OT	Page	Page 9 of 9 Pages		Exhibit R	Exhibit R-3 (PE 0603713A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION S	HEET (R	-2 Exhil	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NI 060 Adv	PE NUMBER AND TITLE 0603730A Tactical Surveillance System Advanced Development (TIARA)	гіт <u>ге</u> actical S evelopm	urveillan ent (TIAF	ice Syste RA)	- E	J	РРОЈЕСТ D560
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D560 Tactical Surveillance System - Adv Dev	11481	0	0	0	0	0	0		0	312899

A. Mission Description and Budget Item Justification: This project supports advanced development work directed at meeting the deep intelligence and targeting needs of Secondary Imagery Dissemination (SID)) addresses common subsystems, planned improvements, key activities and ongoing planned initiatives determined to have potential application to multiple TENCAP systems (including MIES and ETRAC that are funded under the Defense Airborne Reconnaissance Program (DARP) (PE 0305154D)). In FY 1994, this Program Element also provided advanced development efforts to the MIES and the ETRAC, and program support to the Joint Services Imagery Processing development efforts are under the auspices of Army's Tactical Exploitation of National Capabilities (TENCAP) program and include advanced development engineering of (TIARA) Congressional Justification Book, Volume II, and the TENCAP Master Plan. This Program Element (PE) focuses on efforts associated with advanced technology Automatic Target Recognition (HOATR) image processing. HOATR is being developed to meet the need to rapidly exploit an exponentially increasing volume of imagery the Modernized Imagery Exploitation Systems (MIES). The Army's emerging TES will incorporate the standards and protocols dictated by the Common Imagery Ground System (JSIPS). In FY 1995, development efforts for MIES, ETRAC and JSIPS program support were moved to PE 0305154D, (DARP). In a parallel action, the support while decreasing system size and cost, as well as lowering manning requirements. HOATR is directly applicable to the Enhanced Tactical Radar Correlator (ETRAC) and Tactical Exploitation System (TES), advanced communication technologies and processing requirements for new National sensors, prototyping efforts for Hybrid Optical efforts remaining in this PE were consolidated with Project D907 beginning in FY 1996. Further details may be found in the Tactical Intelligence and Related Activities Surface System (CIGSS) program. TES, as a system, brings all of the existing and emerging Army TENCAP capabilities (EPDS, MIES, and ETRAC) into an integrated common baseline; downsized, modular and scaleable to meet a wide range of contingency requirements. TENCAP Common Baseline (which incorporates HOATR and actical commanders, as stated in Field Manual 100-5 and under Airland Battle tactics, to fight out-numbered and win. Specific tactical imagery exploitation advanced development used to demonstrate general military utility to include demonstration and validation in the area of TENCAP and is correctly placed in Budget Activity 4.

best commercial practices, and using commercial and government-off the shelf software, ASPO minimizes risk while maximizing efficiency. Strong user involvement and a environment emphasizing stable funding, low density acquisition, minimal use of MILSPECS, and managed competition. By tailoring existing technology, leveraging the robust operations and maintenance program and a vigorous P3I effort ensure programmatic success. Finally, dedicated cradle to grave Integrated Logistics Support (ILS) Acquisition Strategy: As pioneers in rapid acquisition, ASPO's success in delivering systems as those described above to warfighters can be directly attributed to an for TENCAP systems is accomplished through a coordinated effort by Government and contractor personnel and facilities.

Project D560

Page I of 4 Pages

Exhibit R-2 (PE 0603730A)

RDT&E BUDGET ITEM JUSTI	TEM JUS	TIFICAT	ION SH	IEET (R	FICATION SHEET (R-2 Exhibit)	oit)		DATE March 1996	1996	
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NU 060: Adv	PE NUMBER AND TITLE 0603730A Tacti Advanced Deve	PE NUMBER AND TITLE 0603730A Tactical Surveillance System - Advanced Development (TIARA)	urveillan ent (TIAF	ce Syste⊩ ≀A)	- E	PROJECT D560	l-
 FY 1995 Accomplishments: 2770 Upgraded ETRAC with multi-sensor capability as initial step in advanced development of TES. (Effort funded under PE 0603766 in FY 96.) 3000 Completed development of HOATR (Test Prototype). 1373 Continued support to TENCAP program management and administrative activities (e.g., FFRDC (Aerospace), TEC support, ASPO support. (Effort funded under PE 0603766 in FY 1996). 4338 Continued support to efforts being developed (ETRAC and MIES) under PE 0305154D (DARP) ((e.g., FFRDC (Aerospace), TEC support, ASPO support and Contractor SETA support). 	i-sensor capab HOATR (Test I AP program m rr PE 0603766 being develop A support).	ility as initial Prototype). anagement at in FY 1996). ed (ETRAC a	l step in adv nd administ and MIES)	rative activii under PE 03	lopment of T ties (e.g., FF) 05154D (DA	ES. (Effort RDC (Aeros ARP) ((e.g.,	funded unde space), TEC: FFRDC (Ae	by as initial step in advanced development of TES. (Effort funded under PE 0603766 in FY 96.) stotype). agement and administrative activities (e.g., FFRDC (Aerospace), TEC support, ASPO support and SI FY 1996). (ETRAC and MIES) under PE 0305154D (DARP) ((e.g., FFRDC (Aerospace), TEC support, ASPO	(96.) oort and SE oort, ASPO	TA
FY 1996 Planned Program: All effort in this project transferred/consolidated under PE 0603766 (Project D907), Tactical Electronic Surveillance System-Adv Dev. FY 1997 Planned Program: Program not funded in FY 1997	ject transferrec in FY 1997	//consolidate	d under PE	0603766 (Pı	roject D907),	, Tactical El	ectronic Sur	veillance System-Ac	dv Dev.	
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustments to FY 1995 Appropriated Amount (FY 1996) Adjustments to FY 1996		<u>FX 1995</u> 11717 11481		FY 1996 0	FY 1997 0					
Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current Budget Submit/President's Budget		11481		0	0					
C. Other Program Funding Summary:	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	To Compl	•	Total Cost
KD LE, A Budget Activity 4 PE 0603766A Project D907 TENGAP. Adv. Dev.	14519	27460	26060	23200	27094	28151	32668	ٽ ٽ	Cont	Cont
RDTE, A Budget Activity 5 PE 0604740A Project D662 Tact Surv Sys - Eng Dev	2049	0	0	0	0	0	0	Ŏ	Cont	Cont
Project D560			Page 2 of 4 Pages	4 Pages			Exhibi	Exhibit R-2 (PE 0603730A))A)	





RDT&E BUDGET ITEM JUS		IFICAT	TIFICATION SHEET (R-2 Exhibit)	EET (R	-2 Exhit	Ē	DATE	March 1996	l "
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NU 060: Adv	PE NUMBER AND TITLE 0603730A Tacti Advanced Deve	⊓∟E actical Sı əvelopme	PE NUMBER AND TITLE 0603730A Tactical Surveillance Advanced Development (TIARA)	PE NUMBER AND TITLE 0603730A Tactical Surveillance System - Advanced Development (TIARA)	ă 0	PROJECT D560
C. Other Program Funding Summary: PE 0604766A Project D909 TENCAP - Eng Dev RDTE, A Budget Activity 7	FY 1995	FY 1996 23861	EY 1997 15758	FX 1998 20631	<u>FY 1999</u> 21235	EY 2000 1 28299	FY 2001 27122	To Compl Cont Cont	Total Cost Cont Cont
PE 0305154D Project P531 DARP Other Procurement Army, OPA-2 BZ 7315 TENCAP	39313	42737	47780	35264	13750	13824	13723	Cont	Cont
BA 0329 DARP Procurement, Defense Wide 0305154D, DARP	2411	80822	98486	94583	76123	72124	67173	Cont	Cont
D. Schedule Profile Complete Development and Field TSS Test Prototype HOATR Initiated Adv Dev of TES * Milestone Completed	FY 1995 2 3	4 ×	X 1 X*	FY 1996 2 3	4 L	FY 1997 2 3	4		
Project D560			Page 3 of 4 Pages	Pages			Exhibit R-2	Exhibit R-2 (PE 0603730A)	

4 - Demonstration and Validation A - Demonstration and Validation A - Demonstration and Validation A - Desirat Cost Breakdown A Desirat Cost Breakdown A Desirat Cost Breakdown	PE NUMBER AND TITLE 0603730A Tactical Surveillance Advanced Development (TIARA) EY 1996 FY 1997 0 0	0603730A Tactical Surveillance System - Advanced Development (TIARA) EY 1996 FY 1997 0 0	PROJECT D560
FV 1005	FY 1996 0	F <u>Y 1997</u> 0	
1207 3000 1207 518 vernment) (*1) 2986 vernment) (*1) 1000	0	0	

(*1) In FY 1996 and beyond, this PE/Project is consolidated under PE 0603766A (TENCAP-Adv Dev), Project D907 (Tactical Electronic Surveillance System-Adv Dev). (*2) TENCAP Common Baseline addresses common subsystems, planned improvements, key activities and ongoing/planned initiatives determined to have potential application to multiple TENCAP systems, including MIES and ETRAC that are funded under the Defense Airborne Reconnaissance Program (DARP)(PE 0305154D).

B. Budget Acquisition History and Planning Information: Not Applicable.



Page 4 of 4 Pages

Project D560

Exhibit R-3 (PE 0603730A)



	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICAT	FION SE	HEET (R	(-2 Exhi	bit)		DATE	March 1996	96
BUDGET ACTIVITY 4 - Demonstrat	BUDGET ACTIVITY 4 - Demonstration and Validation			PE NU 060 Adv	PE NUMBER AND TITLE 0603745A Tacti Advanced Deve	ппе actical E evelopm	PENUMBER AND TITLE 0603745A Tactical Electronic Su Advanced Development (TIARA)	Suppor રA)	PE NUMBER AND TITLE 0603745A Tactical Electronic Support Systems Advanced Development (TIARA)		PROJECT D535
Ó	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D535 Intelligence Fus	Intelligence Fusion Analysis Demonstration	1659	5776	2025	0	0	0	0		0	19993
A. Mission Descriptechnologies to intell project supports the uprototype upgrades to	A. Mission Description and Budget Item Justification: This Program Element funds application and validation of advanced computer software and hardware technologies to intelligence fusion analysis functions and prototype development, integration and evaluation of improved tactical intelligence fusion capabilities. This project supports the urgent requirement for an automated tactical intelligence processing system through technology insertion into, and development and evaluation of, prototype upgrades to the All Source Analysis System (ASAS), both during development and after fielding and is appropriately funded in Budget Activity 4.	ition: This sand prototy and factical m (ASAS), h	Program Ele pe developn intelligence	ment funds a nent, integra processing levelopment	application a tion and eva system throu	and validatio aluation of in ugh technolo elding and is	n of advance nproved tact gy insertion appropriate	ed computer ical intellige into, and de ily funded in	Program Element funds application and validation of advanced computer software and hardware ype development, integration and evaluation of improved tactical intelligence fusion capabilities. Il intelligence processing system through technology insertion into, and development and evaluati both during development and after fielding and is appropriately funded in Budget Activity 4.	l hardware pabilities. nd evaluati	This on of,
Acquisition Strateg systems. The efforts (FFRDC), with some	Acquisition Strategy: This project consists of studies, prototype development and evaluation of the integration of tactical intelligence fusion capabilities into existing systems. The efforts are for joint advanced technology research via contractors, Joint Propulsion Laboratory (JPL), a Federally Funded Research and Development Center (FFRDC), with some funds flowing down to colleges and universities as grants under oversight of JPL.	dies, prototy gy research s and univer	oe developm via contracto sities as grar	tent and evalors, Joint Pro	pe development and evaluation of the via contractors, Joint Propulsion Laborsities as grants under oversight of JPL	e integration ooratory (JPI L.	of tactical ii .), a Federall	ntelligence f ly Funded R	usion capabil esearch and I	lities into ex Developmei	cisting nt Center
• 600 Expand collecti integrat terrain a freetext • 359 Initiate develor evaluat • 700 Suppor Enviror other cc Total 1659 FY 1996 Planned Program:	integration management, advanced image processing, advanced correlation and Counter-Intelligence (CI/HUMINT) analysis/situation assessment, collection management, advanced image processing, advanced correlation and Counter-Intelligence (CI/HUMINT) analysis to include streamlined integration of asset scheduling and mobility analysis tools, design of algorithms for realistic situation warping of doctrinal templates, incorporation of terrain and mobility analysis techniques and expert tactical knowledge in automated correlation and automated extraction and structuring of data from freetext CI/HUMINT source reports into intelligence information, linking people, facilities, events, etc. Initiated the integration of techbase collection management and CI/HUMINT analysis support prototypes into the ASAS Block II systems development architecture: designed an advanced client/server architecture for interfacing situation assessment prototype tools with ASAS Block II for evaluation in an ASAS functional and operational environment. Supported the development, integration and evaluation of advanced prototype workstations configured in accordance with Common Operating Environment (COE) standards and employing client-server technology to facilitate rapid and streamlined exchange of information between ASAS and other command and control systems. rogram: rogram: rogram: Amount of advanced large screen automated dranked drmy Warfighter Experiments and the joint precision strike dranked large screen automated drankical disculses which would provide enhanced situational automated for granking dranking dranked situational automates for factical	apabilities an need image I stand mobilities are chiques are eports into in the are collect igned an advonal and ope tregration and and employ stems.	id performan processing, a y analysis to d expert tac ion manager anced client ational envi d evaluation ing client-se demonstrati	nce of the teaddvanced corols, design (tical knowle nformation, ment and CL/server arch ronment. I of advance arver technol arver technol on. Develog mated graph	chbase prote rrelation and of algorithm dge in auton linking peop /HUMINT a itecture for i d prototype logy to facili	otype tools in I Counter-Int s for realistic nated correlations, facilities, analysis suppinterfacing si workstations itate rapid an te Army Wa te Army Wa	support of telligence (C situation wation and aution and aution and prototype truation assessically streamline as treamline rfighter Experience of provide entitle provide entitle and streamline and str	template ana I/HUMINT) arping of do omated extra es into the A ssment proto in accordanced exchange exchange eriments and entanced eith.	nd performance of the techbase prototype tools in support of template analysis/situation assessment, processing, advanced correlation and Counter-Intelligence (CI/HUMINT) analysis to include streamling y analysis tools, design of algorithms for realistic situation warping of doctrinal templates, incorporation dexpert tactical knowledge in automated correlation and automated extraction and structuring of data atelligence information, linking people, facilities, events, etc. iion management and CI/HUMINT analysis support prototypes into the ASAS Block II systems anced client/server architecture for interfacing situation assessment prototype tools with ASAS Block rational environment. id evaluation of advanced prototype workstations configured in accordance with Common Operating devaluation of advanced prototype workstations configured in accordance with Common Operating wing client-server technology to facilitate rapid and streamlined exchange of information between ASA demonstration. Develop and evaluate Army Warfighter Experiments and the joint precision strike	n assessment neclude streates, incorpucturing of ucturing of I systems ith ASAS B non Operaton between scision strik	nt, umlined oration of data from lock II for ing ASAS and e
Project D535	commanders.	, a m nooth	, , , , , , , , , , , , , , , , , , ,	Page 1 of 4 Pages	4 Pages		, ,	Exhib	Exhibit R-2 (PE 0603745A)	603745A)	
110 per mond				, , , , ,	0					,	

	RDT&E BUDGET ITEM JUSTIFICATIO	FICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 4 - Demonstrat	BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603745A Tact Advanced Deve	PE NUMBER AND TITLE 0603745A Tactical Electronic Support Systems Advanced Development (TIARA)	PROJECT Systems - D535
FY 1996 Planned P 1000 780 850 1729 Total 7746	 FY 1996 Planned Program: (continued) Continue to investigate, develop and apply advanced technologies to intelligence fusion prototypes for expanded capabilities and performance in the areas of dynamic situation development/assessment/prediction, collection management, and advanced analysis and correlation, to include: continued streamlined integration of collection management tools for more automated, responsive tactical support: extension of the CL/HUMINT analysis prototype to include automated analysis tools, incorporating the advanced template correlation techniques used in the situation assessment assessment. 780 Continue to evaluate, configure and integrate the high-performance, expanded techbase prototype capabilities into operational ASAS prototypes. 850 Continue to support the development, evaluation and refinement of operational prototypes of functional and performance upgrades/improvements to ASAS and their integration into mainline ASAS development and acquisition per the Joint Prototyping Plan. 129 SBIR/STTR 129 Revised Economic Assumptions - Not available for execution 17 Revised Economic Assumptions - Not available for execution 	nologies to intellige ction, collection mar r more automated, r ng the advanced tem if-the-art video phot formance, expandec rement of operations nent and acquisition tion	nce fusion prototypes for expanded car agement, and advanced analysis and composive tactical support: extension of uplate correlation techniques used in the ogrammetry tools in support of battle do techbase prototype capabilities into op all prototypes of functional and performater the Joint Prototyping Plan.	abilities and performance in the orrelation, to include: continued the CL/HUMINT analysis situation assessment prototype amage and low intensity situation rerational ASAS prototypes.
FY 1997 Planned Program:	rogram: Continue to investigate, develop and apply advanced software and hardware processing, storage, display and Input/Output (I/O) technologies to techbase prototypes of high-performance, expanded intelligence fusion capabilities. Continue to evaluate, configure and integrate techbase prototype capabilities into operational ASAS prototypes. Continue to support the development, evaluation and refinement of ASAS operational prototypes and their integration into mainline ASAS development and acquisition per the Joint Prototyping Plan.	ware and hardware I ligence fusion capab stotype capabilities in nement of ASAS op.	orocessing, storage, display and Input/Cilities. into operational ASAS prototypes. erational prototypes and their integratio	output (I/O) technologies to n into mainline ASAS
B. Project Change Summary Previous President's Budget (FY 96) Appropriated Amount (FY 95) Adjustments to FY 95 Adjustments to FY 96 Adjustments to Budget Year (FY97) FY 96 President's Budget	B. Project Change Summary Previous President's Budget (FY 96) Appropriated Amount (FY 95) Adjustments to FY 95 Adjustments to FY 96 Adjustments to Budget Year (FY97) since FY 96 President's Budget	FY 1996 2937 5834 -58	FY 1997 2096 -71	
Current President's Budget Submit	1659	5776 Page 2 of 4 Pages	2025 Exhibit	Exhibit R-2 (PE 0603745A)





RDT&E BUDGET ITEM JUSTIFICATION	TIFICATION SHEET (R-2 Exhibit)	March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603745A Tactical Electronic Support Systems - Advanced Development (TIARA)	PROJECT D535
Change Summary Explanation: Funding: FY 96 (+3000) Congressional plus-up, (-103) Congressional c FY97 (-71) reduction due to revised inflation rates.	Congressional cuts, (-58) is the portion of the program that has been proposed for rescission. ates.	
C. Other Program Funding Summary: None		
D. Schedule Profile FY 1995	FY 1996 FY 1997 2 3 4	
,		
Integrate HUMINT Anal Spt into ASAS Onerational Prototype	×	······································
Integrate Asset Management into ASAS Block II prototypes	X	
Incorporate Adv Correlation Techniques	×	
Apply Adv Processing Tech into Techbase Prototypes	X	
Integrate Exp Techbase Capabilities into ASAS Operational Prototypes	×	
*Milestone Completed		

Project D535	Page 3 of 4 Pages Exhibit R-2 (PE 0603745A)	5A)
	517	

RDT&E PROGRAM ELEMENT/PRO	JECT C	ROJECT COST BREAKDOWN (R-3)	AKDO	WN (R-3	()	DATE March 1996	1996	
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUMBER AND TITLE 0603745A Tactical Electronic Support Systems Advanced Development (TIARA)	тп∟Е Tactica Jeveloן	l Electroi pment (Ti	nic Suppor ARA)	t Systems -	PROJECT D535	 -
 A. Project Cost Breakdown Prototype Development Efforts Total 	FY 1995 1659 1659	FY 1996 5776 5776		FY 1997 2025 2025	<u>.</u>			
B. Budget Acquisition History and Planning Information:								
Contract Method/Type Award or Performing or Funding Obligation Activity Vehicle Date EAC	Project Office <u>EAC</u>	Total Prior to FY 1995 FY	FY 1995	FY 1996	FY 1997	Budget to Complete	Pro	Total <u>Program</u>
Fronuct Development Organizations JPL PWD EWA PWD Misc Contrs Support and Management Organizations: None Test and Evaluation Organizations: None Government Furnished Property: None		10533	959	1000 3000 1776	2025		21	3000 2476
Subtotal Product Development Subtotal Support and Management		10533	1659	5776	2025		15	19993
Subtotal Test and Evaluation Total Project		10533	1659	5776	2025		13	19993
Project D535	Page	Page 4 of 4 Pages			Exhit	Exhibit R-3 (PE 0603745A)	5A)	





RDT&E BUDGET ITEM JUS	EM JUS	TIFICAT	FION SE	TIFICATION SHEET (R-2 Exhibit)	-2 Exhil	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NI 000	PE NUMBER AND TITLE 0603747A Soldier Support and Survivability	riπιε oldier Sι	upport an	nd Surviv	ability		
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	12189	7698	0899	8816	8293	9314	9006		Continuing	Continuing
DC09 Unit/Organizational Equipment	1929	2180	1316	2797	1869	1527	1486		Continuing	Continuing
D603 Land Warrior	6156	0	0	0	0	0	0		0	6156
D610 Food Advanced Development	2091	2103	1946	2429	2774	3343	3600		Continuing	Continuing
D669 Clothing and Equipment	2013	3415	3418	3590	3650	4444	3920		Continuing	Continuing

supports advanced development of a new generation of field service support items and shelters, including collective protection and shelter heaters for unit/organizational use to enhance the quality of life of field soldiers and the ability to project forces to spartan environments. Program element also supports advanced development of individual fabric shelters, food, food and field service equipment which will enhance soldier battlefield effectiveness, survivability, sustainment and quality of life. Program element clothing and equipment items to lighten the soldier's load and incorporate protection against chemical and biological agents, thermal nuclear flash, ballistic threats, visual Mission Description and Budget Item Justification: Provide advanced development for unit/organizational equipment, improved individual clothing and equipment, and electronic detection and environmental hazards. The projects in this Program Element support research efforts in the Demonstration and Validation phases of the acquisition strategy and are therefore correctly placed in Budget Activity 4.

Page 1 of 18 Pages

Exhibit R-2 (PE 0603747A)

	RDT&E BUDGET ITEM JUST	EM JUS		TION S	HEET (F	FICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 4 - Demonstra	SUBGET ACTIVITY 4 - Demonstration and Validation			D90	PE NUMBER AND TITLE 0603747A Sold	TITLE Soldier S	ਹ ਜਾ∟E Soldier Support and Survivability	nd Surviv	ability		PROJECT DC09
J	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DC09 Unit/Organizati	Unit/Organizational Equipment	1929	2180	1316	2797	1869	1527	1486		Continuing	Continuing
A. Mission Descripe effectiveness.	Mission Description and Budget Item Justification: Develop ctiveness.	ation: Deve		d soft shelter	s, showers,	latrines and l	and field soft shelters, showers, latrines and heaters to improve unit sustainability and combat	prove unit su	ıstainability	and combat	
Acquisition Strates	Acquisition Strategy: Developments transition to Engineering and Manufacturing Development.	Engineering	and Manufa	cturing Dev	elopment.						
FY 1995 Accomplishments:	shments:	£	<u> </u>	<u>.</u>		7 T	• • • • • • • • • • • • • • • • • • •	11 S 11	Ç		
968	Completed 1 echnical/Operational 1 esting of 1 ype 1 Solar Cover. Completed design and faorical Completed design for the Lightweight Maintenance Enclosure (LME). Procured test prototypes.	Ional Testing thtweight Ma	or 1 ype 1 S intenance E	olar Cover. nclosure (LN	Completed (AE). Procur	design and E ed test proto	1ype I Solar Cover. Completed design and labrication of Type II Solar Cover. enance Enclosure (LME). Procured test prototypes.	ıype ii sola	ır Cover.		
• 152		ion, complet	ed Integrater	dev and Dev	ummary and	I procured pr	Integrated Program Summary and procured prototypes of the Ballistic Protective System.	the Ballistic I	Protective S	lystem. ring Develon	ment
265	_	e Heater Con	vective (SH	C).	Cicannig (L.	מוויים (פרוני	ansimonica to	ang mooning and	. Ivialiulactu	ning pevelop	
503 Total 1929	Conducted Market Investigation and built prototypes for the Containerized Self-Service Laundry.	non and buil	prototypes	ror the Conti	amerized Se.	II-Service La	aundry.				
FY 1996 Planned Program:	rogram:										
381	Redesign Ammunition Solar Covers (ASC) Type I to meet both Type I and Type II requirements to improve reliability and stability of munitions in hot environments, complete TT/OT on single solution design. Prepare concept designs for user review of General Purpose Solar Cover which	Covers (ASC TT/OT on sir	Type I to gle solution	meet both T design. Pre	ype I and Ty	pe II require t designs for	ype I to meet both Type I and Type II requirements to improve reliability and stability of munitic solution design. Prepare concept designs for user review of General Purpose Solar Cover which	prove reliability of General F	lity and stat	bility of muniar Cover which	tions in
		rotection that	is rapidly e	rectable and	easy to use.	, ,			, E		Į
465	Ferform Early User Testing, downselect best can maintenance capability and equipment readiness.	downselect (quipment rea	est candidal	e, and initial	re 11/01 res	sung ior me	candidate, and initiate 11/O1 testing for the Ligntweignt Maintenance Enclosure (LME) to improve field tess.	Maintenance	Enclosure	(LME) to im	prove neid
• 259	•	e test prototy	es for the E	allistic Prote	ective Syster	n to reduce	vulnerability	of palletized	supplies.		
142		assess seamir	g technolog	ies for the M	fodular Gene Jents for inco	eral Purpose	Tent System	ı (MGPTS) F	replanned F	Product Impr	ovement
• 440	(F31) to provide dual support options and interchangeable components for increased mexicinity. Complete TT/OT and Type Classify the Containerized Self-Service Laundry to increase quality of life in remote field conditions.	Copulous and Classify the C	interchange Jontainerize	aoie compor 1 Self-Servic	icilis ioi ilic. e Laundry t	reased mexic o increase qu	uality of life	in remote fie	ld condition	18.	
439		t TT/ÓT on 1	he Space Ho	eater Arctic ((SHA) and S	pace Heater	Space Heater Arctic (SHA) and Space Heater Small (SHS) to increase safety, reliability, and efficiency of) to increase	safety, relia	bility, and ef	ficiency of
70	field heaters.										
9		ion not availa	ble for execution	ution							
Total 2180											
Project DC09				Page 2 of	Page 2 of 18 Pages			Exhib	it R-2 (PE	Exhibit R-2 (PE 0603747A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R	-2 Exhib	Ē	Δ	DATE March 1996	1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603747A Sold	тге oldier Su	pport an	ਮਸਸਦ Soldier Support and Survivability	bility	PROJECT DC09
 FY 1997 Planned Program: 290 Complete development and Type Classify the Modular ASC. Fabricate prototype GP Solar Covers for TT/OT. 145 Complete development and Type Classify the LME. 356 Complete TT/OT testing and Type Classify the Ballistic Protective System. 525 Complete development of the thermoelectric capability for integration into the Family of Space Heaters: SHS, SHA, and Space Heater Convective (SHC) for improved heat distribution and increased efficiency. Total 1316 	the Modular ASC. Fabricate prototype GP Solar Covers for TT/OT. the LME. y the Ballistic Protective System. ic capability for integration into the Family of Space Heaters: SHS, increased efficiency.	pe GP Solar (Covers for T	T/OT. SHS, SHA,	and Space Heate	r Convective
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995 -5	<u>FY 1996</u> 2241	FY 1997 1362				
Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 Desident's Budget	2202 -22	-46				
Current President's Budget Submit	2180	1316				
FY 1995 FY 1996 13.DC40, Unit/Organizational 1392 4106	FY 1997 FY 1998 1784 1923	FY 1999 1949	FY 2000 1526	FY 2001 1395	3	To Total Compl Cost Cont Cont
Equipment OPA3, M86200, Laundry and Drycleaning System (LADS)		4062	4474	4475		Cont Cont
D. Schedule Profile FY 1995 1 2 3 4	FY 1996 1 2 3	4	FY 1997 2 3	3 4		
Completed advanced development of 35k BTU Space Heater Convective (SHC) Type Classify SHA and SHS Completed redesign of Lightweight Maintenance Enclosure				×		
Complete TT/OT of Ammunition Cover		×				
Project DC09	Page 3 of 18 Pages			Exhibit	Exhibit R-2 (PE 0603747A)	.7A)

RDT&E BUDGET ITEM JUSTIFICATI	FICATION SHEET (R-2 Exhibit)	R-2 Exhibit)	DATE March 1996	966
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603747A Sold	PE NUMBER AND TITLE 0603747A Soldier Support and Survivability		PROJECT DC09
D. Schedule Profile 1 2 3 1	FY 1996	FY 1997		
n		1	• ×	
* Completed Milestones				
Project DC09	Page 4 of 18 Pages		Exhibit R-2 (PE 0603747A)	()





RDT&E PROGRAM ELEMENT	/PROJECT	COST BREAKDOWN (R-3)	REAKDO	WN (R-	≅	DATE March 1996	96
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUMBER AND TITLE 0603747A Sold	AND TITLE A Soldie	r Support	Soldier Support and Survivability	vability	PROJECT DC09
A. <u>Project Cost Breakdown</u> Primary Hardware Total	FY 1995 1929 1929	FY	<u>1996</u> 2180 2180	F <u>Y 1997</u> 1316 1316			
B. Budget Acquisition History and Planning Information							
Organiza							
or Contract t Method/Type Award or		Total					1
Performing or Funding Obligation Activity Activity Vehicle Date EAC	ity Office	Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	Total <u>Program</u>
Development Organizations							
SSCOM In-House			1000	1070	791	Cont	
Hunter Mfg Various Various			069	200	350	Cont	Cont
Guild Assoc							
Weathernayen Hansen Weather							
GTS							
ARO MIPR			09	70		Cont	Cont
TRADOC							
VA Med Ctr							
McClellan AFB							
Army Nat'l Guard							
Support and Management Organizations							
SSCOM		1250	115	190	95	Cont	Cont
Test and Evaluation Organizations							
TECOM/YPG		2015	64	150	80	Cont	Cont
* DC09 Program line is ongoing in nature, and is made up of multiple projects which are on separate project schedules, as a result the EAC is not applicable to DC09	f multiple projects w	hich are on se	parate proje	t schedules,	as a result the	EAC is not applicable t	, DC09.
Government Furnished Property: None							
Project DC09	Pag	Page 5 of 18 Pages	Se		Exhit	Exhibit R-3 (PE 0603747A)	(

523

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BREAKDO	JWN (R-3)	DATE	March 1996	10
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603747A Soldier Support and Survivability	er Support and	d Survivability	R O	PROJECT DC09
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	Total Prior to <u>FY 1995</u> 12582 1750 1250 115 2015 64 15847 1929	EY 1996 EY 1840 190 150 2180	F <u>Y 1997</u> 1141 95 80 1316	Budget to Complete Cont Cont Cont Cont	Total Program Cont Cont Cont
Project DC09	Page 6 of 18 Pages		Exhibit R-3 (PE 0603747A)	E 0603747A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA.	TION SI	HEET (R	2 Exhil	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NI 0 0 0	PE NUMBER AND TITLE 0603747A Soldier Support and Survivability	ritle Soldier St	upport ar	d Surviv	ability	.	РRОЈЕСТ D603
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D603 Land Warrior	6156	0	0	0	0	0	0		0	6156

enhance the soldier's battlefield capabilities through the development and integration of an assortment of Army system/components and technologies into a cohesive, timely, equipment, integrated headgear with helmet mounted display and image intensifier, and modular weapon system with thermal weapon sight, infrared aiming light, laser A. Mission Description and Budget Item Justification: Land Warrior (LW) is an integrated fighting system for dismounted combat soldiers. The LW program will and combat effective system. These systems/components include an integrated individual soldier computer/radio, enhancements to protective clothing and individual rangefinder, digital compass, video camera, and close combat optic. LW will bring the dismounted soldier into the digital battlefield.

Acquisition Strategy: Per Congressional direction, LW DEM/VAL program and the Generation II Soldier (GEN II) Science and Technology (S&T) program has been components for insertion into the LW consolidated program. An Integrated Product Team (IPT) was formed to determine which technologies from the GEN II S&T merged into a LW EMD program and the Force XXI LW S&T program. The former GEN II S&T program has been restructured to develop advanced technology program will be integrated into the LW program.

FY 1995 Accomplishments:

- Completed engineering analysis, completed Request for Proposal (RFP), and conducted Source Selection for LW Contract Award. 3406
 - 2600 Preliminary Design of Land Warrior System and awarded Land Warrior contract.
- 150 Supported Battlelab Advanced Warfighting Experiment (AWE) Warrior Focus.

Total 615

FY 1996 Planned Program: None

FY 1997 Planned Program: None

Project D603

Page 7 of 18 Pages

Exhibit R-2 (PE 0603747A)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION SHEET	r (R-2 Exhib	it)	DATE March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603747A Sold	AND TITLE A Soldier Sup	ो गा⊓. Soldier Support and Survivability		PROJECT D603
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Value (FY 1995) Adjustment to FY 1995 Appropriated Amount (FY 1996)	FY 1995 FY 1996 5458 25935 5344 812 0	FY 1997 9453			
ar (FY 1997) since FY 1996 Submit	6156 0	-9453			
Change Summary Explanation: Per Congressional direction, LW DEM/VAL been merged into a LW EMD program and the Force XXI LW S&T program.	/AL program and the Cram.	3eneration II Soldie	r (GEN II) Science an	DEM/VAL program and the Generation II Soldier (GEN II) Science and Technology (S&T) program has ${}^{\circ}$ T program.	am has
C. Other Program Funding Summary	EV 1007	EV 1000 EV 1000	1000 VT 0001	To	Total
	16277 16277 48917		7180 9033 7784 93542	Cont	Cont 107383 Cont
D. Schedule Profile	FY 199				
n	7	4 4	4 5 7		
* Completed Milestones					
Project D603	Page & of 18 Pages	Š	<u>т</u>	Evhihit P. 2 (DE 0603747A)	
	92 707 /0 0 092 7			1 L 00001 41 A)	





RDT&E PROGRAM ELEMENT/PROJECT	T COST BREAKDOWN (R-3)	REAKDO	WN (R-	3)	DATE	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603747A Sold	AND TITLE A Soldie	Soldier Support and Survivability	and Surv	ivability	1	РRОЈЕСТ D603
A. Project Cost Breakdown System Engineering/Program Management System Test and Evaluation Prototype Development and Manufacturing Total	FY 1995 6006 150 6156	FY 1996	FY 1997				
B. Budget Acquisition History and Planning Information Performing Organizations Contractor or Contract Contract Contractor or Government Method/Type Award or Performing Project Performing Obligation Activity Office Activity Vehicle Date EAC EAC Product Development Organizations Jul 95 Support and Management Organizations SSCOM Test and Evaluation Organizations TECOM	Total Prior to FY 1995	FY 1995 4392 1614 150	FY 1996	FY 1997		Budget to Complete	Total <u>Program</u>
Government Furnished Property Contract Method/Type Award or Item or Funding Obligation Delivery Description Vehicle Date Product Development Property Thermal Weapons Sight Support and Management Property: None Test and Evaluation Property: None	Total Prior to FY 1995 1300	FY 1995 60	FY 1996	FY 1997	FY 1998	Budget to Complete	Total Program 1360
Project D603	Page 9 of 18 Pages	es		Exh	Exhibit R-3 (PE 0603747A)	0603747A)	

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	MENT/PROJECT	COST BRI	EAKDO	WN (R-	<u> </u>	DATE	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUMBER AND TITLE 0603747A Sold	ND TITLE Soldier	Support	БТІТLE Soldier Support and Survivability	vability	Δ.	РКОЈЕСТ D603
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project		Total Prior to FY 1995 I	EX 1995 4392 1614 150 6156	FY 1996	FY 1997		Budget to Complete	Total 30142 8102 3300 41544
Project D603	Pa	Page 10 of 18 Pages	SS		Exhi	bit R-3 (Pl	Exhibit R-3 (PE 0603747A)	
		, ,						





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA.	TION S	HEET (R	k-2 Exhil	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NI 060	PE NUMBER AND TITLE 0603747A Soldier Support and Survivability	TITLE Soldier St	upport ar	d Surviv	ability	<u>a</u> O	РRОЈЕСТ D610
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D610 Food Advanced Development	2091	2103	1946	2429	2774	3343	3600		Continuing	Continuing Continuing

reduce logistics burden and O&S costs of subsistence support for servicemen and women. Enhance rations by increasing quality, acceptability and variety. Develop multifood service, utilize battlefield fuel and decrease fuel and water requirements. Program is reviewed and validated twice annually by the DoD Food and Nutrition Research fuel, rapidly deployable field food service equipment to support combat, humanitarian missions and operations-other-than-war. Improve equipment to enhance safety in A. Mission Description and Budget Item Justification: Development of Joint Service Food/Food Service Equipment to improve individual combat effectiveness and and Engineering Board as part of the Joint Service Food Program. Conduct Advanced Development of improved subsistence and subsistence support items to enhance soldier effectiveness and quality of life in all four Services as part of an integrated DOD Food Research, Development, Test, Evaluation and Engineering (RDTE&E)

Acquisition Strategy: Developments transition to Engineering and Manufacturing Development.

FY 1995 Accomplishments:

L I 1332 ACCOMPINITIONS	Tell dille	Inchis.
•	553	553 Conducted user test/evaluation of prototype Powered Multifuel Burners (PMB) and improved field food service refrigeration, and transitioned PMB to
•	241	engineering development. Transitioned Technical Data Package (TDP) for Unitized Group Ration (UGR), which provides a simplified/flexible group feeding system, to Defense
		Personnel Supply Center (DPSC) for 1Q96 procurement. Completed Joint Service Nutritional Labeling and transitioned to DPSC for procurement
•	588	and itelating. Completed development of and field tested nutritional information for operational rations for the improved Long Range Patrol Ration. Transitioned
•	180	improved Tray Pack Ration and improved Cold Weather Ration to procurement. 180 Completed test and evaluation of galley improvements aboard Navy P-3 subchaser aircraft to provide cost effective, commercially available
		alternatives to military galley operations.
•	468	Completed preliminary automation requirements to automate the Joint Service Recipe System to eliminate duplication of ellort between Services and provide real time recipe revisions and nutritional analyses to field activities.
•	61	Evaluated new and modified equipment components of the Army Field Feeding System-Future to provide improved food service operations and
		performance in extremely cold weather.
Total	2091	

Page 11 of 18 Pages

Project D610

Exhibit R-2 (PE 0603747A)

Ľ.	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 4 - Demonstrati	вирдет Астіvітץ 4 - Demonstration and Validation	PENUMBER AND TITLE 0603747A Soldier Support and Survivability	PROJECT PROJECT D610
FY 1996 Planned Program:	ogram:		
• 580	Conduct user evaluation of hardware and software developed to automate the Joint Service Recipe System to allow for timely electronic release of	to automate the Joint Service Recipe System to allow	for timely electronic release of
• 265	updated new recipes. Complete technical and user testing of improved Air Force food service refrigeration system to provide highly mobile, efficient and reliable field	ood service refrigeration system to provide highly mob	ile, efficient and reliable field
809	Develop and conduct user evaluations of high potential individual and group ration components. Transition components with high acceptance to fielded rations, improving ration quality and increasing available menus. Identify components and develop medical supplement for the Unitized	ur. sh potential individual and group ration components. Transition components with high acceptance to increasing available menus. Identify components and develop medical supplement for the Unitized	nents with high acceptance to I supplement for the Unitized
• 100	Ration (UGR) to increase logistical e t user testing of new Mobility Enhan	fficiency of medical field feeding. cincrease readiness, ease logistical burden, and improve ration	l burden, and improve ration
• 60 • 225	quanty. Conduct market survey and develop packaging system for Ration Snack Pack to increase acceptability of operational rations. Complete development of Long Range Patrol Rations to minimize weight and volume and transition to procurement. Develop and conduct technical	ation Snack Pack to increase acceptability of operation imize weight and volume and transition to procuremer	al rations. t. Develop and conduct technical
• 212	tests of new composite packaging for rations that will increase consumption and field troop quality of life. Evaluate new shelters for Kitchen Company Level Field Feeding-Enhanced and incorporate changes identified in Mobile Kitchen Trailer-Immovement program including near tooking the most fature folding to the most fature folding the most program including near tooking the most fature folding the most program including near tooking the most fature folding the most program including near the most program included near the	se consumption and field troop quality of life. ding-Enhanced and incorporate changes identified in N	Iobile Kitchen Trailer-
47	improvement program incruding new technology to meet future field feeding requirements to improve system performance in all environments. SBIR/STTR Revised Economic Assumption not available for execution	are itela tecanig requirentents to improve system perio	ormance in all environments.
Total 2103	Action to the manufacture of the carefully		
FY 1997 Planned Program:	ogram;		
• 137	Transition first generation automated system for the Joint Service Recipe System to the Service's field activities	rvice Recipe System to the Service's field activities	
609	Continue to identify and conduct user testing of improvements for individual and group ration systems. Transition selected heat and serve ration	its for individual and group ration systems. Transition	selected heat and serve ration
• 216	components and rate. Improvements, increasing menu variety. Conduct user testing of rations which incorporate new composite ration packaging system, demonstrating sustained ration quality over life.	ty. osite ration packaging system, demonstrating sustained	ration quality over life.
• 260	Conduct user evaluation of Snack Packs and medical suppler	medical supplement for UGR and transition to procurement. Continue user evaluations of MERC to	user evaluations of MERC to
• 356	provide ear on the move capability. Transition selected components to procurement. Initiate design and fabrication of Marine Corps field kitchen based on centralized heating technology providing highly mobile, efficient field feeding	ponents to procurement. I based on centralized heating technology providing his	thly mobile, efficient field feeding
• 141	nical feasibility testing on NDI	waste reduction/handling equipment which will reduce the field back-haul and trash removal	aul and trash removal
• 227	requirements. Initiate development of Field Sanitation Unit for the Air Force Bare Base system to ensure health and safety during field feeding operations.	ce Bare Base system to ensure health and safety during	field feeding operations.
Total 1946			
Project D610	Page	Page 12 of 18 Pages Exhit	Exhibit R-2 (PE 0603747A)





RDT&E BUDGET ITEM JUS	N JUST	IFICAT	TIFICATION SHEET (R-2 Exhibit)	EET (R	2 Exhit	it)		рате Ма в	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NUN 0603	PE NUMBER AND TITLE 0603747A Sold	TLE oldier Su	Soldier Support and Survivability	3 Surviva	ability	PR(D6	РРОЈЕСТ D610
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995)		FY 1995 2142 2097	EY 1996 2162	<u>1996</u> 2162	FY 1997 2135					
Adjustment to FY 1995 Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget		?	2	2124 -21	-189					
Current President's Budget Submit		2091	2	2103	1946					
C. Other Program Funding Summary: RDTE, 0604713.D548, Military Subsistence	FY 1995 844	FY 1996 823	FY 1997 809	FY 1998 938	FY 1999 1388	FY 2000 1766	FY 2001 1895		To Compl Cont	Total Cost Cont
System OPA3, ML5325, Items Less Than \$2.0M (CSS-EQ)	4641	2152	2688	2146	5890	6502	7855		Cont	Cont
D. Schedule Profile	FY 1995	4	FY 2	FY 1996 2 3	4	FY 1997 2 3	4			
Completed development of improved Long Range Patrol Ration, Tray Pack Ration and Cold Weather Ration Automated Joint Service Recipe System Conduct user tests of Mobility Enhancing	ı	* *			×					
Ration Components (MERC) Transition heat and serve ration and MRE improvements to procurement							×			
Fabricate USMC field kitchen based on centralized heating technology Transition Long Range Patrol Rations (LRPR) to procurement.					×		×			
* Completed Milestones										
Project D610			Page 13 of 18 Pages	8 Pages			Exhibi	Exhibit R-2 (PE 0603747A))3747A)	

531

RDT&E PROGRAM ELEMENT/PR	OJECT	SOST BI	REAKDO	ROJECT COST BREAKDOWN (R-3)	3)	DATE March 1996	966
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUMBER AND TITLE 0603747A Sold	AND TITLE A Soldier		Support and Survivability	vability	PROJECT D610
 A. Project Cost Breakdown Primary Hardware Development Total 	FY 1995 2091 2091	FY	FY 1996 2103 2103	FY 1997 1946 1946	i:		
B. Budget Acquisition History and Planning Information							
Organiza							
Contractor or Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity <u>Vehicle</u> <u>Date</u>	Project Office EAC	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	to Total te Program
Development Organizations In-House	* 4 /Z	10116	1357	1477	1213	Cont	
Various Various) ((451	326	400	Cont	
Hunter Mfg SSI,							
GSA MIPR			100				
OGA Monogoment Organizations							
Support and Management Organizations SSCOM		695	108	100	64	Cont	nt Cont
Test and Evaluation Organizations TECOM/OGA *D610 mooremuling is quantume and is made in of multiple low cost projects which are on separate standared project schedules, as a result F40 is not applicable.	iona toco arol e	735 Poets which a	75	200	236	Cont	nt Cont
Government Furnished Property: None				t na 1989n; '.		co, do di comi Litto io i	or approach.
Subtotal Product Development		10116	1908	1803	1613	Cont	nt Cont
Subtotal Support and Management		569	108	100	97	Cont	nt Cont
Total Project		11420	2091	2103	1946	Cont	
Project D610	Page	Page 14 of 18 Pages	ses		Exhi	Exhibit R-3 (PE 0603747A)	(A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION SH	HEET (R	-2 Exhil	oit)		DATE M	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NI 0 0	PE NUMBER AND TITLE 0603747A Soldi	ritle toldier Su	ıpport an	ENUMBER AND TITLE 0603747A Soldier Support and Survivability	ability	<u>a</u> O	PROJECT D669
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D669 Clothing and Equipment	2013	3415	3418	3590	3650	4444	3920		Continuing	Continuing Continuing

A. <u>Mission Description and Budget Item Justification</u> Uses state-of-the-art technology to develop improved clothing and individual equipment items to enhance the effectiveness, lethality, sustainability, survivability and quality of life of the individual soldier.

Acquisition Strategy: Developments transition to Engineering and Manufacturing and then to expense procurement.

FY 1995 Accomplishments:

•	28	Assisted TRADOC in revising requirements documents for the Individual Mircoclimate Cooling System by demonstration to potential users.
•	1620	1620 Completed modifications of the Self-Contained Toxic Environment Protective Outfit (STEPO) test items, conducted equipment prove-out, New
		Equipment Training, and initiated Phase II DT/OT.
•	99	Completed development effort on Liquid Microclimate Cooling Vest.
•	279	Conducted BDO Test and Analysis. Conducted Front End Analysis (FEA) for Garrison Uniform. Tested chemical agents on Joint Service
		Lightweight Integrated Suit Technology (JSLIST) program materials.
Total	2013	

FY 1996 Planned Program:

•	100	100 Conduct market survey, update requirements document, revise acquisition strategy for Special Purpose Eyewear Cylindrical System (SPECS)
		Preplanned Product Improvement (P3I)
•	1304	Evaluate commercial samples and review experimental models for design feasibility of the Modular Load System (MLS) (single point release
		mechanism) and the Body Armor Set Individual Countermine (BASIC) P31 Boot.
	1929	Complete Phase II DT/OT, conduct scoring conference, complete assessment reports, type classify, provide Integrated Logistic Support, complete
		procurement package, and transition to production for STEPO.
•	72	SBIR/STTR
•	10	Revised Economic Assumption not available for execution
Total	3415	

Project D669

Page 15 of 18 Pages

Exhibit R-2 (PE 0603747A)

RDT&E BUDGET ITEM JUST		FICATION SHEET (R-2 Exhibit)	ET (R-2	2 Exhib	it)	DA	DATE Marc	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUMBER AN 0603747A		∟∈ Idier Suµ	oport an	Soldier Support and Survivability	oility	PROJEC D669	Р ROJECT D669
 FY 1997 Planned Program: 1368 Conduct market investigation, test new materials, develop initial design concepts for: Reduced Weight Explosive Ordnance Disposal (EOD) Suit and Arctic Canteen. 2050 Develop initial design concepts, conduct technical and early user evaluations and downselect designs/materials for test prototypes for: SPECS P3I and Advanced Combat Helmet. Total 3418 	materials, develo	p initial design arly user evalu	n concepts	for: Reduc downselect	ed Weight I	Explosive Ordi	nance Disposa prototypes fo	al (EOD) Su	iit and P3I and
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995)	FY 1995 2060 2017	F <u>Y 1996</u> 3510	, ,	<u> 3531</u>					
Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996	ľ	3449	449 -34	-113					
rresident's Budget Submit	2013	3415	15	3418					
C. Other Program Funding Summary:	105 EV 1006	EV 1007	FV 1008	FV 1000	FV 2000	EV 2001		To	Total
RDTE, 0604713.DL40, Clothing & Equipment 51 OMA, 114092000, Central Funding & Fielding 65.			3962 3962 43104	4690 54841	3880	4824 4824 82820		Cont	Cont
D. Schedule Profile	FY 1995	4	FY 1996	3 4	F 2	FY 1997 2 3 4			
Completed Phase I DT/OT of STEPO Completed Equipment Modifications of STEPO Complete Phase II of DT/OT and Assessment Reports and Type Classify STEPO Conduct market survey, update requirements document, revise Acquisition Strategy for SPECS P31 Develop design concepts for SPECS P31 and Advanced Combat Helment (ACH)		· * *			×				
Project D669		Page 16 of 18 Pages	Pages			Exhibit F	Exhibit R-2 (PE 0603747A)	3747A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603747A Soldier Support and Survivability	
V 199	FY 1996 FY 199	V
Conduct technical and early user evaluation for SPECS P31 and ACH Select test prototype designs for SPECS P31 and ACH Evaluate commercial samples for MLS Review experimental MLS prototypes for feasibility Evaluate commercial designs and use CADCAM for BASIC P31 Boot design Conduct market survey for Reduced Weight EOD Suit and Arctic Canteen Test new materials, develop initial designs for Reduced Weight EOD Suit and Arctic Canteen * Completed Milestones	4 1 2 3 4 1 2 3 4 1 2 3 4 1 5	4 × ×
Project D669	Page 17 of 18 Pages Exhi	Exhibit R-2 (PE 0603747A)
	535	

RDT&E PROGRAM ELEMENT/PRO.	JECT C	ROJECT COST BREAKDOWN (R-3)	DOWN (R-3)	DATE Marc	March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	<u>.</u>	PE NUMBER AND TITLE 0603747A Sold	отпте Soldier Support and Survivability	rvivability	PROJECT D669
 A. Project Cost Breakdown Clothing and Equipment Total 	FY 1995 2013 2013	E <u>Y 1996</u> 3415 3415	FY 1997 3418 3418		
B. Budget Acquisition History and Planning Information: None					
Project D669	Page	Page 18 of 18 Pages		Exhibit R-3 (PE 0603747A))3747A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	LION SE	HEET (R	-2 Exhi	bit)		DATE	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NU 060 Adv	PE NUMBER AND TITLE 0603760A Distr Advanced Deve	E NUMBER AND TITLE 0603760A Distributive I Advanced Development	/e Intera	PE NUMBER AND TITLE 0603760A Distributive Interactive Simulations - Advanced Development	ulations		PROJECT DC80
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DC80 Reconfigurable Simulator Advanced Development	8063	0	0	0	0	0	0		0	8063

A. Mission Description and Budget Item Justification: This program element (PE) provides for advanced development of an overarching architecture for reconfigurable program element focuses on efforts associated with advanced technology development used to demonstrate general military utility to include demonstration and validation simulators. Project DC80 is focused on development of both the software and hardware interfaces and specifications required to completely determine a reconfigurable simulator. Emphasis is also placed on defining those software and hardware modules which have broad applicability across a wide range of reconfigurable simulators. Work done on this program will have benefit across the Army and DoD by providing standards for interoperability and software reuse in this emerging domain. This in the area of reconfigurable simulators and is correctly placed in Budget Activity 4.

Projection Army. FY 95 efforts include work on a reconfigurable generic rotary wing aircraft simulator, an armored vehicle simulator which will provide a basis for work on any ground vehicle system, a battle command and control vehicle, a fire support vehicle for use by both the artillery and air defense, and a combat service support Laboratories. Program provides advanced development of modular software and hardware architectures for reconfigurable simulators. Development will provide a common framework for the development of a new generation of reconfigurable simulators that can be used to explore a wide variety of critical issues for the Force Project DC80 - Reconfigurable Simulators Advanced Development: Initiates advanced development of reconfigurable simulators for use in TRADOC Battle

Acquisition Strategy: Competitive development leading to competitive procurement against performance specifications

FY 1995 Accomplishments:

- Developed overarching software architecture for reconfigurable simulators through complete domain analysis
 - Developed and demonstrated modular hardware architecture suitable for reconfiguration 2100
- Defined generic software modules necessary for defining the reconfigurable simulator in the context of its architecture
 - otal 8063

FY 1996 Planned Program: No planned program.

FY 1997 Planned Program: No planned program.

Exhibit R-2 (PE 0603760A) Page 1 of 3 Pages Project DC80

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ITEM JUST	IFICATI	HS NO	EET (R	2 Exhit	jį (DATE Marci	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NUM 0603 Adva	PE NUMBER AND TITLE 0603760A Distr Advanced Deve	PE NUMBER AND TITLE 0603760A Distributive II Advanced Development	e Interac	PE NUMBER AND TITLE 0603760A Distributive Interactive Simulations Advanced Development	ulations -	PROJECT DC80	лест 80
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Value (FY 1995) Adjustments to FY 1995 Appropriated Value Current President's Budget Submit	`	EY 1995 11787 8209 -146 8063	EY 1996	966	FY 1997				: :	
Change Summary Explanation: Funding: Reprogrammed (2192) from Project DC81, PE	roject DC81, PE	0603760A, 99K was a rescission and 2239 withdrawn to meet MPA requirements	9K was a re	escission and	1 2239 with	Irawn to me	eet MPA requ	irements		
C. Other Program Funding Summary RDTE, A Budget Activity 5	EY 1995 2279	EY 1996 I	FY 1997 0	FY 1998 0	FV 1999 0	FY 2000 0	FY 2001 0	а	To Compl 0	Total Cost 2279
PE 0604760A, Project DC81 Distributive Interactive Simulation RDTE, A Budget Activity 5 PE 0604715A Project DC91, Distributive	3373	5997	0	0	0	0	0		0	9370
Interactive Simulation RDTE, A Budget Activity 5 PE 0604760A Project DC77, Interactive Simulation	0	0	3086	10956	6737	16311	13345	S	Cont'd	Cont'd
D. Schedule Profile: The efforts funded in this project are non-system specific and represent continuing advanced development in the area of Reconfigurable Simulators; therefore, no milestones are provided. FY 1995 FY 1996 FY 1997 FY 1996 FY 1997	project are non-sy FY 1995	ystem specific	c and represerved FY	oresent continu FY 1996 2 3	ing advance	d developmer FY 1997 2 3	tent in the are 97	a of Reconfigura	ıble Simul	ators;
Request for Proposal release Contract Award Software/Hardware Integration	**		· *	· ×		ı	• 0			
Project DC80		I	Page 2 of 3 Pages	Pages			Exhibi	Exhibit R-2 (PE 0603760A)	760A)	
			538							





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BREAK	DOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603760A Distributive In Advanced Development	PE NUMBER AND TITLE 0603760A Distributive Interactive Simulations - Advanced Development	PROJECT PROJECT DC80
A. Project Cost Breakdown Software Development Modular Hardware Development Technical Data Total B. Budget Acquisition History and Planning Information: Not Applicable.	1995 FY 1996 5263 2100 700 8063	FY 1997	
Project DC80	Page 3 of 3 Pages	Exhi	Exhibit R-3 (PE 0603760A)
	539		

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA'	TION S	HEET (R	IIFICATION SHEET (R-2 Exhibit)	bit)		DATE M	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation		:	PE NI 060 Car	PE NUMBER AND TITLE 0603766A Tacti Capabilities (TE	FENUMBER AND TITLE 0603766A Tactical Exploitation of National Capabilities (TENCAP) - Demonstration/Validation	xploitatic	on of Nat	ional n∕Validat		РРОЈЕСТ D907
			E	(TIARA)		,		5)	:
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D907 Tactical Electronic Surveillance System - Adv Dev	14519	27460	26060	23200	27094	28151	32668		Continuing	Continuing Continuing

Related Activities (TIARA) Congressional Justification Book, Volume II, and in the Army TENCAP Master Plan. This Program Element (PE) focuses on efforts associated Common Imagery Ground Surface System (CIGSS) program. TES brings all of the existing and emerging Army TENCAP capabilities (EPDS, MIES, and ETRAC) into an with advanced technology development used to demonstrate general military utility to include demonstration and validation in the area of TENCAP and is correctly placed A. Mission Description and Budget Item Justification: Supports the tactical commander's intelligence requirements for contingency force development and deep battle targeting as stated in Field Manual 100-5. Specific developments are managed within the Army's Tactical Exploitation of National Capabilities (TENCAP) program. The subsystems, planned improvements, key activities and ongoing/planned initiatives determined to have potential application to multiple TENCAP systems, including MIES tactical intelligence information and targeting needs to correct deficiencies, and develop concepts, techniques and prototype processors to exploit critical data for near-real and ETRAC that are funded under the Defense Airborne Reconnaissance Program (DARP) (PE 0305154D). Specific details are provided in the Tactical Intelligence and scope of the program is to leverage specific data and capabilities available from existing and emerging National and selected theater capabilities that meet stated Army time integration into the appropriate tactical echelon. This project supports the advanced development/enhancement of the Electronic Tactical User Terminal (ETUT) Mobile Integrated Tactical Terminal (MITT) (replaces the Tactical High Mobility Terminal (THMT)), Forward Area Support Terminal (FAST), Tactical Exploitation System (TES), and Electronic Processing and Dissemination System (EPDS). The Army's emerging TES will incorporate the standards and protocols dictated by the integrated common baseline; downsized modular and scaleable to meet a wide range of contingency requirements. TENCAP Common Baseline addresses common in Budget Activity 4.

best commercial practices, and using commercial and government-off the shelf software, ASPO minimizes risk while maximizing efficiency. Strong user involvement and a environment emphasizing stable funding, low density acquisition, minimal use of MILSPECS, and managed competition. By tailoring existing technology, leveraging the robust operations and maintenance program and a vigorous P3I effort ensure programmatic success. Finally, dedicated cradle to grave Integrated Logistics Support (ILS) Acquisition Strategy: As pioneers in rapid acquisition, ASPO's success in delivering systems as those described above to warfighters can be directly attributed to an for TENCAP systems is accomplished through a coordinated effort by Government and contractor personnel and facilities.

Project D907

Page I of 5 Pages

Exhibit R-2 (PE 0603766A)





	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit) DATE March 1996	
BUDGET ACTIVITY 4 - Demonstra	вирдет Астіуітү 4 - Demonstration and Validation	AND TITLE A Tactical Exploitation of National ties (TENCAP) - Demonstration/Validation	PROJECT D907
	10 \$ 100 mm m	(IMAKA)	
FY 1995 Accomplishments: 8790 Continu	snments: Continued to pursue technology for the refinement of the TE	ments: Continued to pursue technology for the refinement of the TENCAP Common Baseline for fully exploiting National Capabilities to meet the changing	hanging
		environment (to include Demand Assign Multiple Access (DAMA) Applique into Common Baseline Synthesized UHF Computer Controlled Sub-	-qnS
	System (SUCCESS) radios and support to the Joint Collectic Support Tools (CMST).	System (SUCCESS) radios and support to the Joint Collection Management 1001 (JCM1), the follow-on to the Army's Collection Management Support Tools (CMST).	int
• 736	• •		
• 664	_	with enhanced MITT hardware and software.	
• 836 • 3493		Conducted concept design study for incorporating EPDS functionality into ETU1. Continued support to TENCAP program management with administrative activities (e.g. FFRDC (Aerospace), ARL support, ASPO support and	pur
Total 14510	Contractor SETA support).		
FY 1996 Planned Program:	Program:		
10696	Continue to pursue technology for the refinement of the TEI	Continue to pursue technology for the refinement of the TENCAP Common Baseline for fully exploiting National Capabilities to meet emerging	ing
	worldwide contingency scenarios such as upgrades to Comn	worldwide contingency scenarios such as upgrades to Communication System Processor (CSP) to incorporate Tactical Packet Network (TPN) and) and
		applique to SUCCESS radios and support to JCM 1.	
0094		Initiate design concept and prototype development of Tactical Exploitation Systems (165) with state-of-the-art nardware and software.	
400		This entition is a second of the second is the second of the second is the second of the second is the second of t	
5120		Continue support to 1 ENCAP program management with administrative activities (e.g., FFKUC (Aerospace), ASPU, SELA, and 1 EC).	
0067		13-15 (Data) Holyce 1331 (v.g., 1113.00 (recospace), 2010, 30114, and 1100, Technology Transfer (STTR)	•
77		kecution.	
Total 27460			
FY 1997 Planned Program:	Program:		
• 6917	Continue to pursue technology for the refinement of the TE	Continue to pursue technology for the refinement of the TENCAP Common Baseline for fully exploiting National Capabilities to meet emerging	ing
10801	worldwide contingency scenarios	ground processing technologies for new National sensors canabilities that will be incomparated into TDC	TEC
26001	Illitiate auvailceu uevelopinent entoris tot	dministrative activities (e α FFRDC (Aeroenace) ACDO CFTA and TEC)	2
0/75		Continue support to 1 ENCAF program management with administrative activities (e.g., 11100 (Agrouped), ASFO, SETA, and 1EC).	
Total 26060		1175 (Direction (v.g., 11170) (Actospace), Act O, SELA, and LEC.	•
Project D907	Pay	Page 2 of 5 Pages Exhibit R-2 (PE 0603766A)	
		1	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	JUST	IFICAT	ION SH	EET (R	2 Exhit) E		DATE March	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NUMBER 0603766 Capabil (TIARA)	PE NUMBER AND TITLE 0603766A Tacti Capabilities (TE (TIARA)	PENUMBER AND TITLE 0603766A Tactical Exploitation of National Capabilities (TENCAP) - Demonstration/Va	xploitatic	on of Nat	<u>_</u> <u>≅</u>	PROJECT D907) 7
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995)		EY 1995 14815 14519		FY 1996 28369	EY 1997 26913				:	
Appropriated Amount (FY 1996) Adjustments to FY 1996 Adjustment to Budget Year (FY 1996) since			22	27738 -278	-853					
FY 1996 President's Budget Current Budget Submit/President's Budget		14519		27460	26060					
Change Summary Explanation: Eunding: FY 1996: (-278) Revised economic assumptions FY 1997: (-853) Revised inflation rate	suo									
C. Other Program Funding Summary	FV 1995	FY 1996	FV 1997	FV 1998	FV 1999	FV 2000	FV 2001	٢	To	Total
RDTE, A Budget Activity 4								K	T T T T T T T T T T T T T T T T T T T	r N
Tact Surv Sys - Adv Dev		>	>	>	>	>	>			, ,
PE 0604740A Project D662	2049	0	0	0	0	0	0			
Tact Surv Sys - Eng Dev PE 0604766A Project D909	18811	23861	15758	20631	21235	28299	27122	•	Cont	Cont
1ENCAP - Eng Dev RDTE, D Budget Activity 7 PE 0305154D Project P531 DARP	39313	42737	47780	35264	13750	13824	13723	·	Cont	Cont
Other Procurement Army, OPA-2 BZ 7315 TENCAP BA 0329 DARP	4636 2411	4473 0	1758 0	1705 0	1758 0	4678 0	13936 0	•	Cont	Cont
Project D907			Page 3 of 5 Pages	Pages			Exhibi	Exhibit R-2 (PE 0603766A)	66A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TEM JUST	IFICAT	HS NOI	EET (R	-2 Exhil	oit)		DATE Maro	March 1996	
вирсет аститу 4 - Demonstration and Validation			PE NUMBER 0603766 Capabil (TIARA)	PE NUMBER AND TITLE 0603766A Tacti Capabilities (TE (TIARA)	माह actical E (TENCAF	DE NUMBER AND TITLE 0603766A Tactical Exploitation of National Capabilities (TENCAP) - Demonstration/Val (TIARA)	n of Nationstratio	.⊡		PROJECT D907
C. Other Program Funding Summary	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	EY 2001		To Compl	l'otal Cost
Procurement, Defense Wide PE 0305154D Project P531	51534	80822	98486	94583	76123	72124	67173	•	Cont	Cont
D. Schedule Profile	FY 1995	4	1 E	FY 1996 2 3	4	FY 1997 2 3	3 4			
Complete Adv Dev ETUT Retrofit Initiate Analysis/Design Concept for TES Initiate Prototype Development for TES Complete Adv Dev of DAMA Appliqué into TENCAP Common Baseline Success Radios Complete Adv Dev of 5 Additional MITTS		** *		×		×				
* Milestone Completed										
Project D907			Page 4 of 5 Pages	5 Pages			Exhil	Exhibit R-2 (PE 0603766A)	3766A)	

543

RDT&E PROGRAM ELEMENT/PROJECT	ROJECT COST BREAKDOWN (R-3)	AKDOV		DATE March 1996	966
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603766A Tacti Capabilities (TE (TIARA)	D TITLE Tactical SS (TENC	PENUMBER AND TITLE 0603766A Tactical Exploitation of National Capabilities (TENCAP) - Demonstration/Validation	onal ∩Validation	PROJECT D907
A Project Cast Breakdown					
	90 10696	90	2169		
	136 76	00	10899		
		00	0		
ASPO in- House (*2, *3, *4)	109 2541	11	2479		
		61	95		
eering (Contractor) (*2, *3)		15	4620		
3)		25	1050		
SBIR/STTR	587	87			
Revised Economic Assumptions amount not available for		77			
Execution					
Total 14:	14519 27460	20	26060		

^(*1) TENCAP Common Baseline addresses common subsystems, planned improvements, key activities and ongoing/planned initiatives determined to have potential application to multiple TENCAP systems (including MIES and ETRAC that are funded under the DARP (PE 0305154D).

B. Budget Acquisition History and Planning Information: Not Applicable



Page 5 of 5 Pages

Project D907

Exhibit R-3 (PE 0603766A)

^(*2) In FY 1996 and beyond, efforts previously funded under 0603730A.D560 are consolidated into this project.
(*3) Approximately 40% of program management cost in FY 1996 and FY 1997 support efforts being developed under PE 0305154D.P531.

^(*4) The ASPO In-House support in this project also supports efforts being developed under PE 0604766A.D909.



2	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICAT	ION SE	HEET (R	-2 Exhil	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 4 - Demonstrati	BUDGET ACTIVITY 4 - Demonstration and Validation		,	PE NU 060 Dev	PE NUMBER AND TITLE 0603774A Nigh Development	rrr.e light Visi	PE NUMBER AND TITLE 0603774A Night Vision Systems - Advanced Development	ms - Adv	anced		PROJECT D131
00	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D131 Night Vision Syst	Night Vision Systems Advanced Development	3145	2891	2829	3151	3110	3534	3507		Continuing	Continuing
A. Mission Descripti Vision and Electro-Op	A. Mission Description and Budget Item Justification. This program element encompasses the advanced development phase of the Army Acquisition cycle for Night Vision and Electro-Optic (NVEO) devices/systems and prepares them for engineering development. The key objective of this program is to provide NVEO devices/systems	ation This prand prepares	ogram elem them for en	ent encompa gineering de	isses the adv	anced develor The key obje	opment phase ective of this	of the Arm program is	y Acquisition to provide because of	on cycle for l	Night s/systems
for acquisition and en The efforts are center This project provides	for acquisition and engagement of enemy targets at maximum weapon system ranges under degraded battering weather conditions and in countermeasure of the contractions and development of countermeasure and electro-optic sensors for the individual soldiers and combat vehicles to meet stated Army deficiencies. This project provides the mechanism to transition tech base programs for electro-optical sensors to the engineering manufacturing development (EMD) phase of the	maximum with the control of the cont	eapon systen and electro- rams for election	n ranges und optic sensors ctro-optical s	s for the indi sensors to th	vidual soldie e engineering	reautet contra rs and comb g manufactur	at vehicles tring develop	to meet state oment (EML)	eapon system ranges under degraded battleflew weather conditions and in conficultions are stated Army deficiencies, and electro-optic sensors for the individual soldiers and combat vehicles to meet stated Army deficiencies, rams for electro-optical sensors to the engineering manufacturing development (EMD) phase of the sinstitute advances for product improvement or horizontal technology integration (HTI) to upgrade current	ciencies.
acquisition cycle. In capabilities. The focu	acquisition cycle. This project provides the funding necessary to institute advances for product in provides of normal capabilities. The focus is on efforts with advanced technology development and is properly placed in this Budget Activity.	technology d	evelopment	and is prope	rly placed in	this Budget	Activity.	(9010)III			
Acquisition Strategy contracts that were co	Acquisition Strategy: The Long Range Advanced Scout Surveillance System and the Advanced Second Generation FLIR projects, both are based on development contracts that were competitively awarded utilizing best value source selection procedures.	Scout Surve best value sc	illance Syste vurce selectic	m and the A on procedure	dvanced Sec	cond General	tion FLIR pr	ojects, both	are based or	n developme	Ħ
FY 1995 Accomplishments:	Iments: Completed the Standardized Detector Dewar Assembly (SADA) program. Twenty-five (25) units were delivered and integrated into on-going	Detector Dev	var Assembly	y (SADA) pi	rogram. Tw	enty-five (25) units were	delivered an	nd integrated	d into on-goi	gu
	development of 2nd Generation IR systems such as ITAS.	on IR system	is such as IT	AS.	ing Evnerin	ent (AWE)	narticination				
390	Provided support for Sungray Task Force AAL Advanced wattigning LAPATING AT A Participation. Began development of Advanced Second Generation FLIR (SGF) B kit features such as aviation applica	rask Force	Generation I	FLIR (SGF)	B kit feature	s such as avi	ation applica	ation, digital	imagery in	AAAI Auvaileed wan ignuing Eapermient (A 17 E.) participation. Generation FLIR (SGF) B kit features such as aviation application, digital imagery interface card, improved	improved
• 524	optical (OI) features, etc. Implement miniaturization of electronic components and optimize optical design for mounted warrior helmet mounted display.	electronic c	omponents a	nd optimize	optical desig	şn for mount	ed warrior h	elmet moun	ted display.		
Total 3149											
FY 1996 Planned Program:	ogram:							4.			
• 550	Continue support for Stingray Task Force XXI AWE participation.	y Task Force	XXI AWE I	participation mprovement	for HTI R k	it Demonst	rate the Corr	anche annli	cability as t	he aviation B	Kit for
7007	Continue Advanced Second Apache applications.	Jeneranon i	ניוטפן אוים	mproveniem				d			101
- 200	Develop afternative approaches to Long Range Advanced Scout Surveillance System (LRAS3) to support system EMD in FY97.	les to Long F	ange Advan	ced Scout Si	urveillance S	system (LRA	S3) to suppo	ort system E	MD in FY9'	7.	
58	SBIR/SSTR Reduction - Not available for execution Revised Economic Assumption - Not available for execution	available 101 on - Not ava	execution lable for exe	cution							
Total 2891											
Project D131				Page 1 of 4 Pages	4 Pages			Exhib	it R-2 (PE	Exhibit R-2 (PE 0603774A)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (I	R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603774A Nigh Development	e number and Title 0603774A Night Vision Systems - Advanced Development	PROJECT Vanced D131
 FY 1997 Planned Program: 315 Complete support for Stingray Task Force XXI AWE participation. 283 Integrate digital imagery interface card into HTI SGF B kit. 1665 Integrate in-house prototype of aviation SGF B kit into Apache. 566 Integrate Advanced SGF B kit features into M2A3, BFVS and M8. Total	ticipation. it. pache. s and M8.		
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995 Adjustment to FY 1996 Adjustment to FY 1996	EY 1996 2960 2908 -17	FY 1997 2919	
Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current President's Budget Submit	2891	-90	
Change Summary Explanation: Funding: FY 1995 TFXXI for Stingray participation (+1124) FY 1995 Bill Payer (-600) FY 1996 Revised economic assumptions, (-17) FY 1997 PBD 604 inflation assumptions, (-90)			
Project D131	Page 2 of 4 Pages	Exhi	Exhibit R-2 (PE 0603774A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	LIFICAT	HS NOI	EET (R	-2 Exhi	bit)		DATE	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NU 060 Dev	PE NUMBER AND TITLE 0603774A Nigh Development	ात्तह ight Visi it	PE NUMBER AND TITLE 0603774A Night Vision Systems - Advanced Development	ms - Adv		-	를 원
C. Other Program Funding Summary PE 0602709A/Night Vision and Electro-Optical	FY 1995 18956	FY 1996 16695	FY 1997 16994	FY 1998 17842	FY 1999 19143	FY 2000 19156	FY 2001 19583		To Compl Continue	Total Cost Continue
Technology RDTE, A Budget Activity 3 PE 0603710A/Night Vision Advanced	31932	33020	32597	25812	36564	43767	40500		Continue	Continue
Development RDTE, A Budget Activity 4 PE 0604710A/Night Vision Devices Engineering Development RDTE, A Budget Activity 5	41162	38775	33637	21646	20731	17952	28876		Continue	Continue
D. Schedule Profile	FY 1995 2 3	4	1 2	FY 1996 2 3	4	FY 1997 2 3)7 3 4			
Implement development of integrated helmet mounted display program Coordinate commencement of Stingray participation in Task Force XXI AWE & coordinate warfighting experiment planning with mounted battlelab Advanced B kit features transition to HTI B kit Implementation system integration program Prepare acquisition documentation and implement development contract Implement in-house prototype *Milestone Completed	* *	_			×	×	×		•	
Decise D121			Page 3 of 4 Pages	4 Pages	ેં હા		Exhib	it R-2 (PE	Exhibit R-2 (PE 0603774A)	
Froject D131			547							

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BREAK	OOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603774A Nigh Development	PE NUMBER AND TITLE 0603774A Night Vision Systems - Advanced Development	
EY 1	1995 EY 1996 700 1721 1063 0 300 260 878 400 45 45 63 86	E <u>Y 1997</u> 1800 0 260 400 40	
Funds Not Available for Execution Total B. Budget Acquisition History and Planning Information: Not applicable.	2	2829	
Project D131	Page 4 of 4 Pages	EXP	Exhibit R-3 (PE 0603774A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION S	HEET (R	k-2 Exhil	bit)		DATE N	March 1996	•
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NI 060	PE NUMBER AND TITLE 0603790A NAT	TITLE VATO Res	search ai	E NUMBER AND TITLE 3603790A NATO Research and Development	pment	i O	РRОЈЕСТ D691
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Es∂mate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D691 NATO Research and Development	0	0	9963	10207	7454	8010	8621		Continuing Continuing	Continuing

Development (R&D) Projects: Allied Countries. The objective is to improve, through the application of emerging technologies, the conventional defense capabilities of the sharing arrangements, management, contracting, security, data protection and third party transfers. By technology sharing the program jointly develops equipment with our radars, helicopter helmet mounted displays, military network switching, PATRIOT Tactical Operations Center, and is correctly placed in Budget Activity 4. The planned allies to improve operational efforts by achieving multinational force compatibility through the use of similar equipment and improved interfaces. Funds support all the demonstration, validation, and interoperability of the Battlefield Combat Identification System, FBCB2/Appliqué Systems, Adaptive Digital Beamforming for THAAD United States, the North Atlantic Treaty Organization (NATO), and the U.S. major non-NATO allies. This program element only funds the U.S. equitable share of the R&D costs including the identification of cooperative opportunities and administration of the program. This program focuses on international cooperative technology cooperative R&D project spent in the U.S. Projects are implemented with the allied partners through International Agreements which define the scope, cost and work A. Mission Description and Budget Item Justification: The program implements the provisions of Title 10 U.S. Code, Section 2350a, Cooperative Research and program is shown below. The final program will be reported separately as required by 10 USC 2350a(f).

FY 1995 Accomplishments: This effort funded in Research, Development, Test and Evaluation (RDTE), Defense-wide appropriation (PE 0603790D Project P790).

FY 1996 Planned Program: This effort funded in Research, Development, Test and Evaluation (RDTE), Defense-wide appropriation (PE 0603790D Project P790).

FY 1997 Planned Program:

High Technology Switch(Partner: France): Develop advanced interoperable Asynchronous Transfer Mode (ATM) switches for ATM communications CM environments. Extend narrowband ABFT techniques to wideband THAAD radar, develop ABFT architectures and assess performance trade-offs. Adaptive Beamforming Technology (ABFT) for Wide Band Phased Array Radars (Partner: United Kingdom): Improve detection in severe Electronic intelligent Translation Gateway, over the Defense Simulation Internet and the Digital Interface Laboratory in a simulated Operational Environment. Combat Identification System (BCIS) on armored vehicles, conduct interoperability trials with FR, GE, and UK prototype systems in Munster, GE. field experiments, military networks and test beds, Digital Interoperability Laboratory (DIL) and Battlefield Information Transition System (BITS). Battlefield Command and Control (C2) Systems Interoperability (Partner: Germany): Implement, test and evaluate message exchange through the Covert Night/Day Operations in Rotorcraft (CONDOR) (Partner: United Kingdom): Improve helicopter helmet mount display and flight controls. Combat Identification (CI) Interoperability Demonstration (Partners: France, Germany, United Kingdom): Complete integration of the Battlefield Fabrication of Advanced Visionics System (AVS) and Advanced Flight Control System (AFCS) prototypes, system integration and flight testing. 450 2000 1600

Project D691

Page I of 6 Pages

Exhibit R-2 (PE 0603

RDT&E BUDGET ITEM JUSTIFICATI	FICATION SHEET (R-2 Exhibit)	(-2 Exhibit)	DATE Marc	March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603790A NAT	PE NUMBER AND TITLE 0603790A NATO Research and Development	Development	PROJECT D691
 FY 1997 Planned Program: (continued) 400 Extended Air Defense (AD) Command and Control Interoperability(Partner: Germany): Develop system specification to achieve interoperability between US and GE air defense tactical operations centers. Analyze common interoperability elements and prepare pre-design specifications. 1400 Fighting Vehicle Propulsion Technology using Ceramic Materials. Total 9963 	perability(Partner: G s. Analyze common faterials.	ermany): Develop system sinteroperability elements an	specification to achieve inted prepare pre-design speci	eroperability ifications.
B. Project Change Summary Previous President's Budget Adjustments to Budget Year (FY97) since	FY 1996 0 0	FY 1997 0 9963		
FY 1996 President's Budget Current Budget Submit/President's Budget	0	9963		
Change Summary Explanation: Funding: FY 1995: funds were included in RDTE, Defense-wide Appropriation, PE 0603790D FY 1996: funds were included in RDTE, Defense-wide Appropriation, PE 0603790D FY 1997: DOD program restructured to provide funding to the services and defense agencies for cooperative projects.	opriation, PE 060379 opriation, PE 060379 e services and defens	0D 0D e agencies for cooperative p	orojects.	
C. Other Program Funding Summary FY 1995	FY 1997 FY 1998	FY 1999 FY 2000	FY 2001	To Total
7700				
D. Schedule Profile FY 1995	FY 1996 1 2 3	FY 1997	4	
Combat Identification Interoperability SNR(A) MOU Concluded Complete Fabrication and Integration Trials and Demonstration Completed Initial Data Report	×	×	*	
Command & Control interoperation, MOU Amendment Concluded Complete Ops Concept/ Data Dictionary Complete Hardware/Software Installation	×			
Project D691	Page 2 of 6 Pages		Exhibit R-2 (PE 0603790A)	3790A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	CATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603790A NATO Research and Development	velopment D691
D. Schedule Profile FY 1995	FY 1996 FY 1997 4 1 2 3 4 1 2 3	4
Complete Lab Demo/Tests & Simulations Adaptive Beam Forming Technology Project Arrangement Concluded Complete Algorithms/Architecture Complete Wideband Subarray Complete Preliminary Point Design Complete Final Point Design	× × ×	×××
Complete Configuration Development Complete Systems Development Complete Integration Tests Complete Flight Test & Evaluation High Technology Switch	×	×
Project Arrangement Concluded Complete ATM Test Bed Design Complete Hardware/Software Installation Complete Simulation and Commo Link Perform Test and Experimentation Extended Air Defense MOU Concluded Complete Development of Interface Req. Complete Integration Analysis Complete Trade-off Analysis	× × ×	× ×
Project D691	Page 3 of 6 Pages	Exhibit R-2 (PE 0603790A)

551

RDI	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	RAM ELE	MENT/PR	OJECT (COST BE	EAKDC	WN (R-		DATE March 1996	1996	
BUDGET ACTIVITY 4 - Demonstration and Validation	tion and Vali	idation			PE NUMBER AND TITLE 0603790A NAT	AND TITLE A NATO	Research	Research and Development	opment	PROJECT D691	L
A. Project Cost Breakdown Combat Identification Interoperability Demonstration (CIID) Command and Control Systems Interoperability (C2SI) Adaptive Beam Forming Technology (ABFT) Covert Night/Day Operations in Rotorcraft (CONDOR) High Technology Switch Development (HTSD) Extended Air Defense Command & Control Interoperability Total	eakdown on Interoperability rol Systems Inter ming Technology perations in Roto witch Developme se Command & C	y Demonstratio operability (C2 (ABFT) vrcraft (COND) at (HTSD)	on (CIID) (SI) (SR) erability	EY 1995 0 0 0 11 12 12 12	EX 1996 0 17 17 17 17 17	77 77 77 77 78 78	EY 1997 3013 2500 2000 1600 450 400 9963				
1/ Prior years funded in RDTE, Defense-wide Appropriation. PE 0603790D, NATO Cooperative R&D B. Budget Acquisition History and Planning Information	ed in RDTE, Defe	ense-wide Appı Planning Info	opriation. PE 06	503790D, NA	TO Cooperati	ive R&D					
on pauget Arami	Auto Crossite mont										
Performing Organizations Contractor or Contractor	lizations Contract										
Government	Method/Type	Award or	Performing Activity	Project Office	Total Prior to				Budget to		Total
Activity	Vehicle	Date	EAC	EAC	FY 1995	FY 1995	FY 1996	FY 1997	Complete	H	Program
Product Development Organizations	nent Organizatio	ns	,		ţ	•	į	•			
Hughes Training	CPIF	Jan 94	0066	0066	7	⊣	7	1200		-	1500
Boeing Helicopter	CPIF	Dec 93	7500	7500	71	7	77	0		006	006
Philadelphia, PA McDonell Douglas	CPIF	Nov 96	009	009	77	77	77	0		009	009
Mesa, AZ Onantum Research	qqq	May 95	1688	1688	0	77	1/	300		0	300
Huntsville, AL					•	۱ ۹	;	·.			,
CSC	CPFF	Nov 95	2011	2011	0	0	7	1200		400	1600
Ft Washington, FA	CPFF	Oct 95	2167	2167	0	0	77	1300		400	1700
Menlo Park, CA TRW	CPAF	Mar 96	3270	3270	0	0	77	1745		0	1745
Redondo Bch, CA		, rd		1	,			: :			
Project D691		. ~ /		Pa	Page 4 of 6 Pages	es		Exhit	Exhibit R-3 (PE 0603790A)	90A)	1
		,			653						

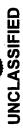




RDT	RDT&E PROGRAM ELEMENT	RAM ELI	EMENT/PR	/PROJECT	COST BI	ZEAKDO	COST BREAKDOWN (R-3)	<u>@</u>	DATE Ma	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation	ion and Val	idation			PE NUMBER AND TITLE 0603790A NAT	AND TITLE	Research	этте NATO Research and Development	lopment	R Q	Р ROJECT D691
Contractor or	Contract	Award or	Performino	Project	Total						
Performing	or Funding	Obligation	Activity	Office	Prior to				æ	Budget to	Total
Activity	Vehicle	Date	EAC	EAC	FY 1995	FY 1995	FY 1996	FY 1997	O	Complete	Program
Madentech	CPFF	Feb 95	1245	1245	0	77	7	250		250	200
Shrewsbury, NJ		,			•	•	•	1600		<	1500
Georgia Tech	CPFF	Aug 94	3059	3059	7	π	7	1200		>	0001
Atlanta, GA	ļ		t	450	7	1,	1	150		_	150
Dynetics	CPFF	Aug 94	275	5/2	71	7	7	130		>	OCT
Huntsville, AL	i	•	•	,	c	c	c	100		c	1001
Mitre	FFRDC	Mar 96	100	001	-	ɔ ' [,]	>	100		>	3
Boston, MA						s*					
Support and Management Organizations	gement Organiz	cations						•			ć
ATCOM	MPIR							100		20	7007
Ft Eustis, VA								•		,	0
CECOM	MPIR							468		400	808
Ft Monmouth, NJ								9		9	ć
NASA Ames	MIPR							100		100	700
San Francisco, CA								000		Č	700
ICPA	MIPR							200		700	400
APG, MD								•		•	Ċ
PM ADCCS	MIPR							100		100	007
Huntsville, AL								i c		ć	750
PM THAAD	MIPR							720		700	450
Huntsville, AL		,						•			
Test and Evaluation Organizations	n Organization	S						i d		Č	6
AMSAA	MIPR							000		300	800
APG, MD								Č		0	•
CECOM	MIPR							700		700	400
Ft Monmouth, NJ								c		9	9
ATCOM (AATD)	MIPR							-		400	400
Ft Eustis, VA											
1/ Prior years funded in RDTE, Defense-wide Appropriation.	ed in RDTE, Del	ense-wide Ap		603790D, NA	PE 0603790D, NATO Cooperative R&D	tive R&D					
				P	Page 5 of 6 Pages	Sa		Exh	Exhibit R-3 (PE 0603790A)	503790A)	
Project D691					2 2 2 2 9					7	

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BREAKDO	WN (R-3)	DATE	March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603790A NATO Research and Development	Research and	Development	Р ROJE СТ D691
Government Furnished Property: None				
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	Total Prior to EY 1995 EY 1995 L L L L L L L L L L L L L	EY 1996 EY 1997 12 8045 12 1218 14 700 14 9963	1997 8045 1218 700	Budget to Total Complete Program 2550 10595 1100 2318 900 1600 4550 14513
1/ Prior years funded in RDTE, Defense-wide Appropriation. PE 0603790D, NATO Cooperative R&D	TO Cooperative R&D			
Project D691	Page 6 of 6 Pages		Exhibit R-3 (PE 0603790A)	0603790A)





	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SUL ME	TIFICAT	FION SE	IEET (R	-2 Exhil	oit)		DATE M:	March 1996	60
BUDGE 4 - D	BUDGET ACTIVITY 4 - Demonstration and Validation			PE NU 060	PE NUMBER AND TITLE 0603801A Avial	e number and TITLE 0603801A Aviation - Advanced Development	Advance	d Develo	pment		
	COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
	Total Program Element (PE) Cost	16309	14035	8385	7657	8041	6268	6362		Continuing	Continuing
DB32	DB32 Advanced Mainteance Concepts and Equipment	5170	2306	2228	2853	2806	3265	3313		Continuing	Continuing
DB33	DB33 Cargo Handling Equipment	1343	2093	2053	2071	2581	3003	3049		Continuing	Continuing
DB45	DB45 Aircrew Integrated Systems	9796	9636	4104	2733	2654	0	0		Continuing	Continuing

Mission Description and Budget Item Justification: This PE provides advanced development aviation support of tactical programs associated with air mobility, advanced maintenance concepts and equipment, and Aircrew Integrated Systems (ACIS), formerly Aviation Life Support Equipment (ALSE). The projects in this Program Element support research efforts in advanced development phase of the acquisition strategy and are correctly placed in Budget Activity 4.

Page 1 of 14 Pages

Exhibit R-2 (PE 0603801A)

RDT&E BUDGET ITEM JUS	EM JUS	TIFICAT	TION SE	HEET (R	TIFICATION SHEET (R-2 Exhibit)	oit)		DATE	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NI 060	PE NUMBER AND TITLE 0603801A Aviat	E NUMBER AND TITLE 1603801A Aviation - Advanced Development	Advance	d Develo	pment	a ()	PROJECT DB32
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DB32 Advanced Mainteance Concepts and Equipment	5170	2306	2228	2853	2806	3265	3313		Continuing	Continuing Continuing

(primarily in the area of diagnostics/prognostics) and servicing operations by: replacing obsolete, insupportable ground support equipment with new and standardized multimaintenance procedures and reduce operating and support costs. Included in the project is the Intelligent Fault Locator (IFL), a program to test artificial intelligence-based output equipment compatible with all Army aircraft models; developing rapid battle repair procedures and tools to speed the return of aircraft to combat ready status; and A. Mission Description and Budget Item Justification: This project enhances utilization of current and future aircraft by improving the efficiency of maintenance troubleshooting software on an AH-64 Apache aircraft, and Digitized Aviation Logistics (DAL) elements to include a Portable Maintenance Aid (PMA), database developing new equipment for aerial recovery of damaged aircraft, and validating new maintenance concepts to improve man machine interface, enhance aircraft management software, on-board diagnostics, digital source collector, health/usage monitoring system, trending analysis, and support infrastructure.

Acquisition Strategy: This project is an aggregate of advanced maintenance concepts-related projects. While the detailed acquisition strategy varies from project to documentation for milestone decision is prepared, as appropriate, concurrently with the development effort in preparation for program transition to the organization project, the general strategy for each individual project is to complete the development effort through Government test (developmental and operational). Program responsible for production and fielding.

FY 1995 Accomplishments:

FY 1996 Planned Program:

		-
	2306	Total
SBIR/STTR	49	•
Revised economic assumption not available for execution	9	•
Develop/demonstrate environmentally sensitive options for aircraft maintenance	12	•
	153	•
Complete the Dem/Val phase of the ABE Program	547	•
[425] Initiate a Dem/Val program for a comprehensive on-board diagnostic system interfaced with an automated maintenance and logistics system	1425	•
114 Demonstrate knowledge base automated NDI/NDT inspection and repair procedures for composite components	114	•



Page 2 of 14 Pages

Project DB32

Exhibit R-2 (PE 0603801A)



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R	-2 Exhibit		DATE	E March 1996	966
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603801A Aviation - Advanced Development	π∟ε viation - Αα	dvanced	Developn	nent	PROJECT DB32
 FY 1997 Planned Program: 300 Initiate development of a field repair capability for low observable components 1317 Complete detailed design of the on-board diagnostics system and define the interface with the automated maintenance and logistics system 290 Assemble the advanced Portable Maintenance Aid and initiate a field demonstration 321 Demonstrate environmentally friendly alternatives for aircraft maintenance problems Total 	servable components m and define the inte iate a field demonstri raft maintenance prol	rface with the stition	uutomated n	laintenance ar	id logistics syste	E
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustments to FY 1995 +821	FY 1996 2371	EY 1997 2303				
Appropriated Amount (FY 1996) Adjustments to FY 1996 Adjustment to Budget year (FY 1997) since FY 1996	2329 -23	-75				
President's Budget Current President's Budget Submit	2306	2228				
Change Summary Explanation: Funding: FY95 increase (+821) reflects reprogramming action from DB33. FY96 adjusted (-23) for revised economic assumptions. FY97 adjusted (-75) for revised economic assumptions. Schedule: None Technical: None	333.					
C. Other Program Funding Summary EY 1995 FY 1996 F RDTE,A Budget Activity 2 PE 0602211 Project 16358 15459 A47A Aeronautical and Aircraft Weapons Tech	EV 1997 EV 1998 23190 24994	EY 1999 E 27305	EY 2000 F	<u>FY 2001</u> 29084	To Compl	To Total ompl Cost Cont Cont
Project DB32	Page 3 of 14 Pages			Exhibit R-	Exhibit R-2 (PE 0603801A)	(A)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE	March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603801A Avial	PE NUMBER AND TITLE 0603801A Aviation - Advanced Development	Development	PROJECT DB32
Conduct development and operational test 1 2 3 4 1 Conduct development and operational test of the UMARK Complete the Dem/Val Phase of the ABE program Complete detailed design of the on-board diagnostics system and define the interface with the automated maintenance and logistics system	FY 1996 2 3 X	FY 1997 X X X X	4	
Project DB32	Page 4 of 14 Pages		Exhibit R-2 (PE 0603801A)	603801A)





RDT&E PROGRAM ELEMENT	/PROJECT	ST BREAK	COST BREAKDOWN (R-3)	DATE March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation	PE 00	PE NUMBER AND TITLE 0603801A Avia	ਮπ∟E Aviation - Advanced Development	PROJECT IOpment DB32	
	3001 232	7001 A.I	EV 1007		
A. Project Cost Breakdown	FX 1995	FY 1996	220		
Primary Hardware Development	363	00/	0/0		
Software Development	420	213	555		
Systems Engineering	264	30	425		
Integrated Logistics Support	2830	126			
DT/OT	296	343	!		
Program Management	170	150	167		
Research Personnel	200	594	596		
Miscellaneous	125	150	115		
Total:	5170	2306	2228		
B. Budget Acquisition History and Planning Information:	1: Not required				
					-
			٠.		
,					
	S cond	Dana & of 14 Danas	П 4	Evhihit D.3 (DE 0603801A)	
Project DB32	r agn I	y 1+1 uges		DICINES (LE COCSOCIES)	ı

RDT&E BUDGET ITEM JUS	EM JUS		TION SI	HEET (R	FIFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	မွ
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NI 090	E NUMBER AND TITLE 1603801A Aviat	птге Vviation -	PE NUMBER AND TITLE 0603801A Aviation - Advanced Development	d Develo	pment	<u>а</u>	PROJECT DB33
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DB33 Cargo Handling Equipment	1343	2093	2053	2071	2581	3003	3049		Continuing	Continuing Continuing

A. Mission Description and Budget Item Justification: This project develops equipment and operational improvements for loading and off-loading helicopter cargo in all-weather, around the clock combat scenarios.

Acquisition Strategy: This program is an aggregate of advanced cargo handling concepts-related projects. While the detailed acquisition strategy varies from project to project, the general strategy for each individual project is to complete the development effort through Government test (developmental and operational) or system level demonstration. Programs are executed in coordination with the gaining organization and the user.

FY 1995 Accomplishments:

•	346	346 Completed design, fabrication and bench test of a pre-production prototype of the 30mm Ammo Loader compatible with weight goals for both the
		AH-64A and C/D aircraft
•	266	997 Completed the detailed design and initiated fabrication of advanced internal and external cargo handling systems
Total	1343	

FY 1996 Planned Program:

•	383	Initiate definition of a high-mobility transport system for aircraft maintenance units
•	1658	Complete fabrication and installation of advanced internal and external cargo handling systems and demonstrate their impact on cargo aircraft
		productivity
•	9	Revised economic assumption not available for execution
•	46	SBIR/STTR
Total	2093	

FY 1997 Planned Program:

•	1171	Complete the demonstration of advanced internal and external cargo handling systems
•	386	Initiate the demonstration of a cargo movement system for heavy (95th percentile) loads
•	496	Continue the aircraft maintenance unit mobility system definition
Total	2053	

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Page 6 of 14 Pages

Exhibit R-2 (PE 0603801A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (F	R-2 Exhit	oit)	DATE Marc	March 1996	
вирсет астіvіту 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603801A Avia	TITLE Aviation -	ਮਸਸ਼ Aviation - Advanced Development	/elopment	PROJECT DB33	33
B. Project Change Summary Previous President's Budget Appropriated Amount (FY 1995) Adjustments to FY 1996 Adjustment to Budget Year (FY 1997) since FY 1996	FY 1996 2152 2114 -21	EY 1998 2125 -72				
President's Budget Submit Current President's Budget Submit	2093	2053				
Change Summary Explanation: Funding: FY95 decrease (-821) reflects reprogramming action to DB32. FY96 adjustment (-21) reflects revised economic assumptions. FY97 adjustment (-72) reflects revised economic assumptions.	32. ns. ns.					
C. Other Program Funding Summary FY 1995 FY 1996 RDTE, A Budget Activity 2 PE 0602211 Project 16358 15459 A47A Aeronautical & Aircraft Weapons Tech.	EY 1997 EY 1998 23190 24994	EX 1999 27305	EY 2000 EY 2001 26643 29084		To Compl Cont	Total Cost Cont
D. Schedule Profile FY 1995	FY 1996	4	FY 1997 2 3	4		
		×				
Project DB33	Page 7 of 14 Pages		Ű	Exhibit R-2 (PE 0603801A)	3801A)	
in a contract of the contract						

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RDT&E PROGRAM ELEMENT/PROJECT	CT COST BRE	COST BREAKDOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603801A Avia	D TITLE Aviation - Advanced Development	PROJECT Opment DB33
A Project Cost Breakdown	FV 1095 FV 1096	FV 1997	
ent	1		
Systems Engineering DT	0 368	230	
Program Management	0 149		
Research Personnel	0 545		
Miscellaneous	0 31	•	
Total	1343 2093		
		•	
Project DB33	Page 8 of 14 Pages	Exhit	Exhibit R-3 (PE 0603801A)





RDT&E BUDGET ITEM JUS	EM JUS	TIFICA	TION SE	TIFICATION SHEET (R-2 Exhibit)	-2 Exhil	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NI 060	PE NUMBER AND TITLE 0603801A Aviation - Advanced Development	ritle viation -	Advance	ed Develo	opment	<u>a</u> 0	PROJECT DB45
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	F∖ 1999 Es∄nate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DB45 Aircrew Integrated Systems	9626	9636	4104	2733	2654	0	0		Continuing	Continuing Continuing

design will improve overall aircrew mission performance, aircrew comfort, aircrew and aircrew station interface, safety, and survivability. The Aircrew Integrated Common thereby reduce potential injuries/casualties on UH-60 and SH-60 aircraft; complementing the AH-64 Cockpit Air Bags System (CABS) Engineering, Manufacturing, and Advanced Development: This project provides advanced development for those systems and items of equipment which are unique and necessary to the sustainment and Joint Cockpit Air Bag System (JCABS) effort will evaluate a variety of supplemental restraint system approaches to improve crew and passenger crash survivability and Development (EMD) program, with follow-on adaptation to the OH-58D and CH-47D aircraft. The Air Warrior (AW) program will provide the aircrew with a systems enhanced survivability of Army aircrews and passengers on the future integrated battlefield and during related training activities. Advanced development programs will focus on the development and evaluation of emerging technologies and the adaptation of commercial and nondevelopmental items (NDI) to military requirements. The Helmet (AICH) program is the major information management, control, and aircraft interface for the Air Warrior system and incorporates Comanche electronics as an protection, ballistic protection, night vision capability, heads-up displays, nuclear flash protection, directed energy eye protection, and flame/heat protection. The AW approach to chemical and biological (CB) protection, noise protection, microclimatic conditioning, crash and post-crash survivability, concealment and environmental A. Mission Description and Budget Item Justification: Project DB45 - Aircrew Integrated Systems (ACIS) - formerly Aviation Life Support Equipment (ALSE) Aircraft Retained Unit (ARU) utilizing new flat panel displays and the HGU-56/P as the Pilot Retained Unit (PRU). The magnetic head tracker technology is being developed as an ARU/PRU for Longbow Apache. Active Noise Reduction technology is being developed in concert with the AICH program. None of these efforts duplicate any aircraft program efforts. Both joint and service independent efforts will be pursued under the scope of this project.

Acquisition Strategy: DB45 - Production of the Aircrew Integrated Common Helmet for the Comanche program will be competed among the helmet electronic manufacturers. A development contract will be awarded in FY 97 for demonstration/validation of the Air Warrior system.

FY 1995 Accomplishments:

- Continued fabrication and evaluation of the Agile Laser Eye Protection (LEP) (Joint Service)
- Completed Inflatable Body and Head Restraint System (IBAHRS) (Joint Service/Completes Army IBAHRS RDTE funding)
 - Conducted Air Warrior advanced development and technology trade studies (Joint Interest)
- Continued JCABS component development, contractor development tests, and completed Preliminary Component Design (Joint Service)
- Initiated AICH contractor design and testing of image intensification, miniature flat panel displays, and magnetic head tracker (potential Joint Service)
- Total

Project DB45

Page 9 of 14 Pages

Exhibit R-2 (PE 0603801A)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET (DATE March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603801A Avia	ס דודוב Aviation - Advanced Development	PROJECT DB45
FY 1996 Planned Program: 800 Continue JCABS development contractor component, environmental, and dynamic system tests required prior to Milestone II (Joint Service) 1624 Continue Air Warrior trade studies, prepare developmental contract Request for Proposal (RFP), and integrate AICH effort (Joint Interest) 6427 Continue AICH contractor prototype development for laboratory and flight test of irrage intensification, miniature flat panel displays, and magnetic head tracker (potential Joint Service) 550 Initiate NBC Advanced Initiatives Advanced Development for air vehicle and aircre. 27 Revised Economic Assumptions amount not available for execution 208 FY 96 SBIR/STTR reductions Total 9636	environmental, and dy ental contract Request laboratory and flight te nent for air vehicle and for execution	namic system tests required prior to Mi for Proposal (RFP), and integrate AICH st of i:nage intensification, miniature fl l aircrε w	estone II (Joint Service) effort (Joint Interest) at panel displays, and magnetic
 FY 1997 Planned Program: 2080 Award Air Warrior advanced development contract and continue evaluation of near-term fixes and technology voids (Joint Interest) 1110 Continue AICH development and evaluate its integration of AICH optical display technology into the Air Warrior program 914 Continue NBC Advanced Initiatives advanced development Total 4104 	d continue evaluation on of AICH optical disment	contract and continue evaluation of near-term fixes and technology voids (Joint its integration of AICH optical display technology into the Air Warrior programsed development	(Joint Interest)
B. Project Change Summary Previous President's Budget (FY 1996) 4628 Appropriated Amount (FY 1995) 9796	5 EY1996 8 3907 6	<u>FY 1997</u> 4238	
Adjustments to FY 1996) Adjustments to Budget Year (FY 1997) since	9734	-134	
FY 1996 President's Budget Current Budget Estimate Submission 9796	9636	4104	
Change Summary Explanation: Funding: FY 96 reflects revised economic assumptions (-98). FY 97 reflects revised economic assumptions (-134).			
Project DB45	Page 10 of 14 Pages		Exhibit R-2 (PE 0603801A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SOL M	FICA	TION SH	IEET (R	-2 Exhi	jį;		DATE Ma	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NU 060	PE NUMBER AND TITLE 0603801A Avial	пте viation -	отпте Aviation - Advanced Development	d Devel	opment	PR(PROJECT DB45
C. Other Program Funding Summary	EV 1005	EV 1006	EV 1007	1008	EV 1000	000C XI	EV 2001		To	Total
RDTE, A Budget Activity 5 PE 0604801A Project DC45 (Aircrew Integrated Systems - Engineering,	4614	5002	5518	7596	6910	2420	2403		Cont	Cont
Manufacturing, Development) Aircraft Procurement, Army (APA) SSN AZ3110 Aircrew Integrated Systems	9059	9334	6292	12782	10378	9361	9288		Cont	Cont
D. Schedule Profile	FY 1995 2 3	4	1 F	FY 1996 2 3	4	FY 1997 2 3	4			
Air Warrior Materiel Need Statement (MNS)	* *									
Trade Studies and evaluations Develop measures of performance and		**								
effectiveness Prepared Draft Request for Proposal			**							
(RFP) and trade studies received Release Draft Request for Proposal (RFP)			×							
for industry response Prenroposal conference				×						
Final advanced development RFP released to industry					×					
Source Selection					×	×				
Combined Milestone I and 11 decision Award advanced development contract						;×	<u>.</u>			
Post Award Conference and Functional						•	×			
Analysis Preliminary Design Review							×	,		
Aircrew Integrated Common Helmet Award advanced development contract		*	,							
Evaluate image intensification and optical display effort			≺							
Project DB45			Page 11 of 14 Pages	14 Pages			Exhib	Exhibit R-2 (PE 0603801A)	603801A)	

RDT&E BUDGET ITEM JUSTIFICAT	IFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603801A Aviation - Advanced Development	PROJECT PROJECT DB45
Exercise advanced development /design of optical display prototypes Continue advanced development of most promising image intensification and optical display technologies Joint Cockpit Air Bags System Continue development contractor component, environmental, and dynamic system tests Milestone II Nuclear, Biological, Chemical, (NBC) Advanced Initiatives Initiate NBC Initiatives development for air vehicle and aircrew Trade Studies and technology investigation	FY 1996 X X X X X X X X X X X X X	3 4
Project DB45	Page 12 of 14 Pages	Exhibit R-2 (PE 0603801A)
	999	





RD	RDT&E PROGRAM ELEMENT	RAM EL		PROJECT	SOST B	REAKDO	COST BREAKDOWN (R-3)	3)	DATE Marc	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation	ition and Val	lidation			PE NUMBER AND TITLE 0603801A Avia	AND TITLE	on - Adva	ोगा। Aviation - Advanced Development	opment	PRC	PROJECT DB45
A. Project Cost Breakdown Product Development Organizations Support and Management Organizations Test and Evaluation Organizations Total	reakdown nt Organizations ement Organizati i Organizations	ions		EY 1995 4704 4814 278 9796		FY 1996 7161 1960 515 9636	EY 1997 2390 1170 544 4104				
B. Budget Acquisition History and Planning Information	tion History and	l Planning Inf	ormation								
Performing Organizations Contractor or Contra Government Metho Performing or Fur	contract Method/Type or Funding	Award or Obligation	Performing Activity	Project Offfice	Total Prior to	EV 1006	7001 A.I	EV 1007	Bud	Budget to	Total
Activity Product Development Organizations IBAHRS. Simula.	<u>Venicie</u> ient Organizatio	<u>Daie</u> ins	782	SUS	6712	0	0	0			6712
Phoenix, AZ JCABS, Simula,	SS-CPFF	May 1994			1430	1199	554	0		0	3183
Phoenix, AZ AICH, Gentex,	SS-CPFF	July 1995			2000	1134	6427	859		0	10219
Carbondale, PA Agile LEP, Naval	SS-CPFF	Feb 1995	6053	6053	5348	705	0	0		0	6053
Center, Warminster, PA Air Warrior, various simulation	C-CPFF	June 1995	1679	1679	173	950	30	100		426	1679
facilities Air Warrior, AD	C-CPFF	March						1532		Cont	Cont
unknown Miscellaneous	MIPR	1661				716	150	100		Cont	Cont
Project DB45				Page	Page 13 of 14 Pages	ges		Exhit	Exhibit R-3 (PE 0603801A)	801A)	

		DAME	=MENIT/DD) IECT	a Taga	DEAKO	PO IECT COST BPEAKDOWN (B.3)		DATE	9007	
בסא	KDI &E PROGRAM ELEMENIN	KAINI ELI	NEW IVER	OJECI		NEAND			March 1990	1880	
BUDGET ACTIVITY 4 - Demonstration and Validation	ion and Vali	idation			PE NUMBER AN 0603801A	PE NUMBER AND TITLE 0603801A Aviation		Advanced Development	lopment	PROJECT DB45	
Contractor or Government Performing Activity	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office EAC	Total Prior to EY 1995	FY 1995	FY 1996	EY 1997	Budget to Complete	뀙	Total Program
Support and Management Organizations CAS, Huntsville, C-CPFF Dec 1	gement Organiza	ations Dec 1993			332	324	330	200	0	Cont	Cont
AL Camber,	C-CPFF	Dec 1993			243	494	331	200	0	Cont	Cont
Huntsville, AL ATCOM, St.	MIPR					1411	200	200	O	Cont	Cont
Louis, MO AFDD, Moffett	MIPR	Nov 1993			898	720	0	0	0	Cont	Cont
Field, CA USAARL, FT.	MIPR	May 1995				780	224	100	J	Cont	Cont
Rucker, AL AATD, Ft. Rucker,	MIPR					640	240	100	0	Cont	Cont
AL Natick R&D	MIPR					445	100	70	O	Cont	Cont
Center, Natick, MA Revised Economic Assumptions/SBIR/STTR	Assumptions/SBI	R/STTR					235				
Test and Evaluation Organizations TECOM/ATTC, MIPR Ft. Rucker, AL	on Organizations MIPR	S				278	515	544	C	Cont	Cont
Government Furnished Property: Not Applicable	ished Property:	Not Applicat	ole								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project DB45	evelopment nd Management svaluation					4704 4814 278 9796	7161 1960 515 9636	2390 1170 544 4104		Cont Cont Cont	Cont Cont Cont
Project DB45				Pa	Page 14 of 14 Pages	ages	:	ĒŽ	Exhibit R-3 (PE 0603801A)	101A)	
ard malari					673						



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION SE	HEET (R	-2 Exhi	bit)		DATE	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NU 060 Dev	PE NUMBER AND TITLE 0603802A Weal Development	птсе Veapons it	and Mun	PENUMBER AND TITLE 0603802A Weapons and Munitions - Advanced Development	dvance	70	
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	1220	973	0	0	0	0	0		0	2945
XXXB MK-19 IMPROVEMENTS	1220	0	0	0	0	0	0		0	1972
DAS2 SMALL ARMS IMPROVEMENTS	0	973	0	0	0	0	0		0	973

in the PE; both are related to small arms. The MK19-3 Grenade Machine Gun delivers accurate, lethal firepower against personnel and lightly armored targets at ranges out Mission Description and Budget Item Justification: This Program Element (PE) supports advanced development of weapons and munitions. Two projects are included to 2,200m. Improvements to this weapon are oriented on firing platform stability and training effectiveness. A new project, small arms improvements, aims to achieve advances in small arms target acquisition, fire control, lethality, training effectiveness, mobility, and reliability. Both projects in this PE focus on efforts associated with advanced technology development. They demonstrate general military utility, to include demonstration validation, and are correctly placed in budget activity 4.

Page 1 of 7 Pages

Exhibit R-2 (PE 0603802A)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA.	TION SH	HEET (R	\-2 Exhil	bit)		NA IS	March 1996	6
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NI 060	PE NUMBER AND TITLE 0603802A Weal Development	PE NUMBER AND TITLE 0603802A Weapons and Munitions - Advanced Development	and Mun	itions - /	Advancec		PROJECT XXXB
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
XXXB MK-19 IMPROVEMENTS	1220	0	0	0	0	0	0		0	1972

of the weapon system and crews in force-on-force training exercises. The Soft Mount is designed to provide a firing platform with improved stability. This effort will result adaptation of the Multiple Integrated Laser Engagement System (MILES), another existing training device. This device will be used as a means to evaluate the performance A. Mission Description and Budget Item Justification: This project focuses on improvements to the MK19-3 Automatic Grenade Launcher. In addition to investigating targets with use of the Traverse and Elevation (T&E) Mechanism and free gun engagement. This device will replicate with high accuracy and resolution the aiming, firing, Gunnery Trainer is a video style classroom trainer. It is an adaptation of an existing training device that will provide basic gunnery skills in engaging single and multiple in improved accuracy, faster reaction times, unlimited traverse, and a reduction in training costs through reduced ammunition consumption and barrel wear. This project and fire adjustment of the actual weapon to include hits/misses, trajectory, and flight characteristics of the 40mm ammunition. The Tactical Engagement Simulator is an soft mounts, two system-specific training devices: a Gunnery Trainer for the MK19 and a Tactical Engagement Simulator for the MK19-3 are being developed. The focuses on efforts associated with advanced technology development. It demonstrates general military utility, to include demonstration and validation, of tactical engagement simulation and is correctly placed in budget activity 4.

FY 1995 Accomplishments:

- Conducted Trade-off Determination for Tactical Engagement Simulator (TES)
 - Determined Best Technical Approach for TES
- Issued preliminary Request for Proposal for TES 150
 - Developed prototype for TES
- Conduct Milestone I/III for TES
- Developed concept formulation/acquisition strategy for Soft Mount 90
- Conducted market survey/purchase of commercially available Soft Mounts
 - Conducted confidence tests for Soft Mount
- Generated performance specification for Soft Mount

FY 1996 Planned Accomplishments: No planned program

FY 1997 Planned Accomplishments: No planned program

Project XXXB



Page 2 of 7 Pages

Exhibit R-2 (PE 0603802A)



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUST	IFICAT	HS NO!	EET (R	-2 Exhil	oit)		DATE	March 1996	1996	
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NUT 0603 Dev	PE NUMBER AND TITLE 0603802A Weal Development	PENUMBER AND TITLE OG03802A Weapons and Munitions - Advanced Development	and Mun	itions - /	Advance	þe	PROJECT XXXB	m ट
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1996) Adjustment to FY 1996 Appropriated Amount (FY 1996) Adjustments to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget		EY 1995 1246 1220 0 0 0		FX 1996 0 0 0 0 0	FY 1997 0 0 0 0 0						
Current President's Budget Submit C. Other Program Funding Summary	EY 1995	1220 EY 1996	FY 1997	0 EY 1998	U FY 1999	FY 2000	EY 2001		To Comp	p Total Cost	Cost
WTCV, A GL3200 Items Less than \$2.0M	926	0	1051	0	0	0	0			•	2007
D. Schedule Profile	FY 1995 2 3	4	1 2	FY 1996 2 3	4	FY 1997 2 3	97 3 4	-	7	3 4	
Conducted Trade-Off Determination for Tactical Engagement Simulator (TES) Determined Best Technical Approach for TES Issued preliminary Request for Proposal for TES Conduct Milestone I/III for TES Developed concept formulation/ acquisition strategy for Soft Mount Conducted market survey for Soft Mount Small Purchases of Soft Mount Conducted confidence test for Soft Mount Small Purchases of Soft Mount Conducted confidence test for Soft Mount Soft Mount Generated performance specification for Soft Mount	* * *	* *	**	× ×	· ×		: :				
Project XXXB			Page 3 of 7 Pages	7 Pages			EXP	Exhibit R-2 (PE 0603802A)	E 060380	(ZA)	

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	PROJECT (SOST BE	REAKD	OWN (R-	3	DATE March 1996	1996	
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUMBER AND TITLE 0603802A Weal Development	AND TITLE A Weap ment	ons and M	PENUMBER AND TITLE 0603802A Weapons and Munitions - Advanced Development	Advanced	PROJECT XXXB	
A. Project Cost Breakdown Other Government Agency Support Program Management Support Contract Support	EX 1995 1084 8 128 1220		FY 1996 0 0 0 0	FY 1997 0 0 0 0				
B. Budget Acquisition History and Planning Information								
Performing Organizations Contract Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity Vehicle EAC	Project Office EAC	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	Pro	Total
STRICOM MIPR Jan 95 323	323	732	323	0	0		0 10	1055
Orlando, FL Support and Management Organizations PM Small Arms MIPR Mult/95 769 Picatinny Ars. NJ	692	20	692	0	0		0	789
Test and Evaluation Organizations TACOM Small Mult/95 Picatinny Ars, NJ Purchase	3 128	0	128	0	•		0	128
Government Furnished Property: N/A								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation		732 20	323 769 128	000	.000		000	1055 789 128
Total Project		752	1220	0	0		•	1972
Project XXXB	Pa_{i}	Page 4 of 7 Pages	es		Exhi	Exhibit R-3 (PE 0603802A)	(SA)	
		677						Ĭ





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION SE	HEET (R	-2 Exhil	bit)		DATE	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PENI 060 Dev	PE NUMBER AND TITLE 0603802A Weapons and Munitions - Advanced Development	^{गा⊤∟E} Veapons ≀t	and Mun	itions - A	dvanced		PROJECT DAS2
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Es′imate	FY 2000 Estimate	FY 2001 Estimate	·	Cost to Complete	Total Cost
DAS2 SMALL ARMS IMPROVEMENTS	0	973	0	0		0	0		0	973

day/night fire control system with a laser range finder for use on the MK 19-3 Grenade Machine Gun, M2 .50 cal Heavy Machine Gun, and 7.62mm Medium Machine Gun. control, training devices, and ammunition. This project will begin development of a small arms common module fire control system (SACMFCS) providing an integrated The SACMFCS is a continuation of an advanced development effort conducted by the Joint Service Small Arms Program. This project focuses on efforts associated with A. Mission Description and Budget Item Justification: This project aims to achieve improvements in target acquisition, target effect, lethality, training effectiveness, weapons (.38 cal, .45 cal; 9mm), individual weapons (5.56mm - 7.62mm), and crew served weapons (5.56mm - 40mm). Also included is related equipment such as fire advanced technology development. It demonstrates general military utility, to include demonstration and validation, of a small arms fire control system and is correctly durability, and reliability, availability and maintainability (RAM) for small arms weapons systems. Current small arms systems include a variety of personal defense placed in budget activity 4.

FY 1995 Accomplishments: No planned program

FY 1996 Planned Program:

- 75 Conduct market survey/ Trade-off Determination
 - 248 Develop system performance specification
 - 75 Prepare and staff Purchase Description
- 75 Prepare procurement package input for ATD hardware
 - 350 Award contract for ATD hardware
- 22 SBIR/STTR
- 122 Conduct ATD and develop reports

Revised economic assumption not available for execution

otal 07

FY 1997 Planned Program: No planned program

Project DAS2

573

Page 5 of 7 Pages

RDT&E BUDGET ITEM JUSTI	FICATION	FICATION SHEET (R-2 Exhibit)	R-2 Exhit	oit)	DATE March	March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUMBER AND TITLE 0603802A Weak Development) TITLE Weapons ∂	and Munitio	PENUMBER AND TITLE 0603802A Weapons and Munitions - Advanced Development	PROJECT DAS2
B. Project Change Summary Previous President's Budget (FY 1995) Appropriated Amount (FY 1995) Adjustment to FY 1995 Appropriated Amount (FY 1996) Adjustments to Appropriated Value Current Budget Submit/President's Budget	FY 1995 0 0 0 0 0	FY 1996 0 0 983 - 10	FY 1997 0 0 0 0 0 0			
Change Summary Explanation: Funding: Adjustment to FY 96 is due to revised economic C. Other Program Funding Summary None	assumptions.					
D. Schedule Profile FY 1995	4	FY 1996	4	FY 1997	4	
			× ××	× × ×		
Project DAS2	Pa	Page 6 of 7 Pages			Exhibit R-2 (PE 0603802A)	302A)





RDT&E	PROG	RDT&E PROGRAM ELEMENT	EMENT/PR	/PROJECT	COST BREAKDOWN (R-3)	REAKDO	WN (R-	3)	DATE March 1996	1996	
BUDGET ACTIVITY 4 - Demonstration and Validation	and Vali	dation			PE NUMBER AND TITLE 0603802A Weal Development	AND TITLE A Weapone	ons and N	lunitions -	PE NUMBER AND TITLE 0603802A Weapons and Munitions - Advanced Development	PROJECT DAS2	ЕСТ 52
A. Project Cost Breakdown Other Government Agency Support Program Management Support Contract Support Total	y Support			FY 1995 0 0 0		EY 1996 523 100 350 973	FY 1997 0 0 0 0				
B. Budget Acquisition History and Planning Information	listory and	Planning Info	ormation								
Performing Organizations Contractor or Contra Government Metho Performing or Fun Activity Vehicl	ations Contract Method/Type or Funding	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete		Total Program
Product Development Organizations ARDEC MIPR	rganization >R	ıs Mult	373	373	0	0	373	0		0	373
Support and Management Organizations	nt Organiz	ations Mult	100	100	0	0	100	0		0	100
	:	3096	350	350	0	0	350	0		0	350
Picatinny Arsenal Test and Evaluation Organizations	ranizations										
TECOM MIPR	PR	Mult	35	35	0	0	35	0		0	35
TEXCOM MIPR ARDEC MIPR	PR PR	Mult Mult	40 75	40 75	0 0	00	40 75	00		0 0	40 75
Government Furnished Property None	Property A	Vone									
Subtotal Product Development	ment				0	0	373	0		0	373
Subtotal Support and Management	nagement				0	0	450	0		0	450
Subtotal Test and Evaluation	ion				0	0	150	0		0	150
Total Project					0	0	973	0		0	973
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Project DAS2				Pa	Page 7 of 7 Pages	ies .		Exh	Exhibit K-3 (PE 0603802A)	02A)	

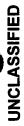
	RDT&E BUDGET ITEM JUST	SUL ME	TIFICAT	FION SH	IEET (R	IIFICATION SHEET (R-2 Exhibit)	bit)		DATE M	March 1996	60
800GE 4 - D	вирсет астіліту 4 - Demonstration and Validation			PE NU 060 Adv	PE NUMBER AND TITLE 0603804A Log Advanced Dev	אחדנ Logistics and Engineering Equipment Development	and Engi ent	ineering	Equipme	ent -	
	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
	Total Program Element (PE) Cost	14399	7224	7592	6840	5491	5743	6077		Continuing	Continuing
DG01	Combat Engineer Equipment Advanced Development	9106	0	0	0	0	0	0		0	12200
DG10	Advanced Tactical Power Sources	224	130	132	130	172	196	219		Continuing	Continuing
DG11	Advanced Electrical Energy Concepts Advanced Development	744	221	217	215	212	290	288		Continuing	Continuing
DG14	Logistics Support Equipment Advanced Development	485	95	88	88	87	96	95		Continuing	Continuing
DK39	General Support Equipment Advanced Development	835	959	869	1449	1428	1720	1871		Continuing	Continuing
DK41	POL Distribution Equipment Advanced Development	648	885	891	912	876	958	951		Continuing	Continuing
D266	Airdrop Equipment Advanced Development	1197	1452	1444	1452	1452	1433	1611		Continuing	Continuing
D428	Tactical Rigidwall Shelter Advanced Development	789	3482	3951	2594	926	1050	1042		Continuing	Continuing
D526	Marine Orientation Log Equipment Advanced Development	371	0	0	0	338	0	0		Continuing	Continuing
Miss	Mission Description and Budget Itom Instiffactions		rom cumor	te demonstra	tion and val	idation of no	mond impr	orred technol	Logies for co	This program supports demonstration and validation of new and improved technologies for combat support and	om d

combat service support equipment essential to sustaining combat operations. Advancements in airdrop, rigid wall shelters, marine craft, bridging, electric power generators Mission Description and Budget Item Justification: This program supports demonstration and validation of new and improved technologies for combat support and and batteries, potable water, environmental control and petroleum equipment are necessary to improve safety and increase the tactical mobility, operational capability, lethality and survivability on the digital battlefield of the first to fight; and to provide for greater sustainment of all combat forces while reducing the logistics support

Page I of 35 Pages

Exhibit R-2 (PE 0603804A)





RDT&E BUDGET ITEM JUSTIFICATION	TIFICATION SHEET (R-2 Exhibit) March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603804A Logistics and Engineering Equipment - Advanced Development

burden. The projects in this Program Element support research efforts in the Demonstration and Validation phase of the acquisition strategies and are therefore correctly placed in Budget Activity 4.

Page 2 of 35 Pages

42

Exhibit R-2 (PE 0603804A)

577

RDT&E BUDGET ITEM JUST	EM JUS		ION SI	HEET (F	IFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NU 060 Adv	PE NUMBER AND TITLE 0603804A Logic Advanced Deve	E NUMBER AND TITLE 0603804A Logistics and Engineering Equipment Advanced Development	and Engi ent	neering	Equipme	,	PROJECT DGO1
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	***	Cost to Complete	Total Cost
DGO1 Combat Engineer Equipment Advanced Development	9106	0	0	0	0	0	0		0	12200
A. Mission Description and Budget Item Justification: This program supports advanced development of new and improved technologies for combat engineer equipment such as bridging and construction equipment.	cation: This	program sup	ports advan	ced develop	ment of new	and improve	d technolog	ies for comb	oat engineer	equipment
Acquisition Strategy: Complete advanced development and transition to engineering development.	pment and tra	nsition to en	gineering de	velopment.						
 FY 1995 Accomplishments: 978 Completed validation of Laser Vibration Sensor System (LVSS) sensor and structural models. 2940 Completed final design and fabricated LVSS. 3918 Evaluated Medium Assault Bridge. 270 Procured Palletized Load System (PLS) trailers for preliminary testing. 450 Procured PLS trucks for preliminary testing. 550 Prepared for and conducted Pre-Milestone II review activities. Total 9106 	er Vibration S fabricated LV Sridge. stem (PLS) tr liminary testir Pre-Milestone	ensor Syste SS. ailers for pre g. II review a	m (LVSS) se eliminary tes ctivities.	ensor and str ting.	ructural mod	S.				
FY 1996 Planned Program: None										
FY 1997 Planned Program: None										
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995 Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996	9661	FY 1995 9174 8982 124		FY 1996	FY 1997		4			
President's Budget Current President's Budget Submit		9106	90							
Project DGO1			Page 3 of 35 Pages	35 Pages			Exhib	it R-2 (PE	Exhibit R-2 (PE 0603804A)	
			000							





RDT&E BUDGET ITEM JUS	TIFICAL	TIFICATION SHEET (R-2 Exhibit)	EET (R	-2 Exhil	ojt)		DATE March	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NU 060 Adv	PE NUMBER AND TITLE 0603804A Logis Advanced Deve	PE NUMBER AND TITLE 0603804A Logistics and Advanced Development	and Engi	neering	PENUMBER AND TITLE 0603804A Logistics and Engineering Equipment - Advanced Development		PROJECT DGO1
C. Other Program Funding Summary	FV 1006	FV 1997	FV 1998	FV 1999	FY 2000	FY 2001	O	To Compl	Total Cost
RDTE, 0604804.DH01, Combat Engineer 4122	9425	9635	7737	4614	96	95	l	Cont	Cont
Equipment Engineering Development OPA3, G82400, Heavy Dry Support Bridge					9657	22000			31657
D. Schedule Profile FY 1995	4	1 2	FY 1996 2 3	4	FY 1997 2 3	7 3 4			
LVSS sensor and structure models LVSS final design and fabrication Demonstrated and tested MLC 96 capability for HDSB Initiated documentation for HDSB MS II Conduct HDSB MS II review Evaluated Medium Assault Bridge		×		×					
* Completed Milestones				i programa de la companya della companya della companya de la companya della comp					
						:			
Project DGO1		Page 4 of 35 Pages	35 Pages			Exhi	Exhibit R-2 (PE 0603804A)	804A)	
		570	_						

579

RDT	RDT&E PROGRAM ELEMENT/P	RAM EL	EMENT/PR	ROJECT COST BREAKDOWN (R-3)	COST B	REAKDC	WN (R-	3)	DATE March 1996	966
BUDGET ACTIVITY 4 - Demonstration and Validation	on and Val	idation			PE NUMBER AND TITLE 0603804A Logis Advanced Deve	e number and tifte 0603804A Logistics and Advanced Development	ics and E	ngineering	PE NUMBER AND TITLE 0603804A Logistics and Engineering Equipment - Advanced Development	PROJECT DGO1
A. Project Cost Breakdown Hardware Development Evaluate Medium Assault Bridge Test and Evaluation Government Engineering and Support Government Program Support Miscellaneous	akdown nt ault Bridge ing and Suppor	t		FY 1995 3764 3918 328 650 250 196		FY 1996	FY 1997			
B. Budget Acquisition History and Planning Information	on History and	Planning Inf	ormation							
Performing Organizations Contract Contract Contract Government Method/Type Award or Performing or Funding Obligation Activity Vehicle Date Product Development Organizations TARDEC In-House Various Contractor TBD CPFF Mar 96 Support and Management Organizations: None Test and Evaluation Organizations: None Miscellaneous TECOM MIPR Jan 94 BRTC, Inc CPFF Various TACOM MIPR Jan 94 BRTC, Inc CPFF Various TACOM MIPR Various	ations Contract Method/Type or Funding Vehicle In-House CPFF ement Organization Organization MIPR MIPR MIPR MIPR Hed Property:	Award or Obligation Date ns Various Mar 96 zations: None s: None Jul 95 Jan 94 Various Various	Performing Activity EAC	Project Office EAC	Total Prior to EY 1995 2000 1000	FY 1995 4591 3500 598 150 98 169	FY 1996	FY 1997	Budget to Complete	to Total
Project DGO1				Pas	Page 5 of 35 Pages	Ses		Exhi	Exhibit R-3 (PE 0603804A)	(4)
1 10 0 0 0 0 0 T										





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BE	REAKDO	WN (R-	3)	DATE March	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603804A Logis Advanced Deve	PE NUMBER AND TITLE 0603804A Logistics and Advanced Development	ics and E	ngineering	PE NUMBER AND TITLE 0603804A Logistics and Engineering Equipment - Advanced Development		PROJECT DGO1
Subtotal Product Development	Total Prior to <u>FY 1995</u> 3000	EY 1995 8091	FY 1996	EY 1997	Budget to Complete	Budget to Complete	Total Program 11091
Subtotal Test and Evaluation Subtotal Miscellaneous Total Project	94 3094	1015 9106					1109
		*.					
	Page 6 of 35 Pages	ses		EX.	Exhibit R-3 (PE 0603804A)	804A)	
Project DGO1	501						

RDT&E BUDGET ITEM JUST	EM JUS	TIFICAT	ION SH	HEET (R	FIFICATION SHEET (R-2 Exhibit)	bit)		DATE Ma	March 1996	•
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NU 060 Adv	PE NUMBER AND TITLE 0603804A Logis Advanced Deve	ENUMBER AND TITLE 0603804A Logistics and Advanced Development	and Engi ent	ineering	ENUMBER AND TITLE 3603804A Logistics and Engineering Equipment - Advanced Development		PROJECT DG10
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	J	Cost to Complete	Total Cost
DG10 Advanced Tactical Power Sources	224	130	132	130	172	196	219		Continuing Continuing	Continuing

A. Mission Description and Budget Item Justification Develop advanced tactical power sources to improve soldier mobility, sustainability and survivability. This is the only project that bridges the gap between tech base and full scale production of new higher energy density, lower cost, all-weather batteries/energy conversion systems to satisfy the unique tactical and logistical requirements of portable electronic battlefield equipment. This effort also includes state of charge measuring and indicating circuitry as well as safety protection circuitry. Superior battery charging and analyzing equipment required to meet unique requirements are also included.

Acquisition Strategy: Transition to Production

FY 1995 Accomplishments:

- Completed prototype throw away pouch battery for Project Manager, Soldier.
- Developed second generation Smart Battery for on-line indication of battery life status.
- Developed safe prototype lithium rechargeable battery for communications and Special Operation Forces. 94 50 224
 - Total

FY 1996 Planned Program:

- Develop an improved rechargeable battery and charger based on the lithium ion battery chemistry for use in the Single Channel Ground and Airborne Radio System (SINCGARS)
 - Develop techniques for reducing battery related disposal costs.
 - Develop a vehicular mounted battery charging station. 2 2 40
 - SBIR/STTR
 - Total

FY 1997 Planned Program:

- Conduct field test and evaluation of next generation of primary lithium based batteries. 32 32 32
 - Begin development of high power battery chemistry with no toxic/hazardous materials.
 - Develop High Energy/High Power throw away battery for Force XXI Soldier.
- Total

Project DG10

Page 7 of 35 Pages





RDT&E BUDGET ITEM JUSTIF	TIFICATION SHEET (R-2 Exhibit)	SHEET (R	-2 Exhibi	£	DATE March 1996	966
BUDGET ACTIVITY 4 - Demonstration and Validation	PR 00	PE NUMBER AND TITLE 0603804A Logic Advanced Deve	e number and title 0603804A Logistics and Advanced Development	ם חדוב Logistics and Engineering Equipment - Development	g Equipment -	Р ко ЈЕСТ DG10
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustment FY 1995 Adjustment FY 1996 Adjustment FY 1996	EY 1995 1 230 225 -1	EY 1996 135 132 -2	EY_1997 133 -1			
President's Budget Submit	224	130	132			
C. Other Program Funding Summary: None						
D. Schedule Profile FY 1995	4 1	FY 1996 2 3	4	FY 1997 2 3 4		
Prototyped disposable Pouch Battery Developed Second Gen. Smart Battery X* X* X* Developed Safe Lithium Rechargeable	*					
Battery Develop Rechargeable Battery & Recharger for SINCGARS			× ×	×		
disposal costs Develop charging station for vehicular			×			
batteries Field test and evaluation of next generation Lithium batteries Develop High Energy/High Power battery for Force XXI Soldier			×		×	
* Completed Milestones						
Project DG10	Page 8	Page 8 of 35 Pages		EX	Exhibit R-2 (PE 0603804A)	(V

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	JECT CO	ST BREAK	DOWN (R-3)	DATE March 1996	1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE A	PE NUMBER AND TITLE 0603804A Logistics and Advanced Development	PE NUMBER AND TITLE 0603804A Logistics and Engineering Equipment - Advanced Development	ring Equipment -	PROJECT DG10
A. Project Cost Breakdown Hardware Development Test and Evaluation Total	FY 1995 224 224	FY 1996 130 130	FY 1997 102 30 132		
B. Budget Acquisition History and Planning Information: None					
			:		
Project DG10	Page 5	Page 9 of 35 Pages		Exhibit R-3 (PE 0603804A)	04A)
		584			





RDT&E BUDGET ITEM JUS	EM JUS	TIFICA	TIFICATION SHEET (R-2 Exhibit)	IEET (R	-2 Exhil	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE № 060 Adv	PE NUMBER AND TITLE 0603804A Logic Advanced Deve	PENUMBER AND TITLE 0603804A Logistics and Engineering Equipment Advanced Development	and Engi ent	ineering	Equipme	1	PROJECT DG11
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DG11 Advanced Electrical Energy Concepts Advanced Development	744	221	217	215	212	290	288		Continuing	Continuing
A. Mission Description and Budget Item Justification: Provides advanced development for electrical energy devices to improve soldier mobility, readiness and survivability. This project supports initiatives which will lead to tactical electric power procurements in diesel powered generators and power units/power plants rated at 3-200 kilowatts (kW) with higher efficiency, lighter weight, easier maintainability and higher reliability.	tation: Provent will lead to weight, easier	des advance tactical elec maintainab	des advanced development for electri tactical electric power procurements maintainability and higher reliability.	ent for electr rocurements ier reliability	ical energy or in diesel po	devices to in wered gener	prove soldi ators and pc	er mobility, wer units/p	ides advanced development for electrical energy devices to improve soldier mobility, readiness and tactical electric power procurements in diesel powered generators and power units/power plants ra maintainability and higher reliability.	l nted at 3-
Acquisition Strategy: Complete advanced development and transition to engineering development.	pment and tra	nsition to en	gineering de	evelopment.						
 FY 1995 Accomplishments: 344 Completed evaluation of commercial variable speed constant frequency technology in a 3kW engine generator. 125 Initiated evaluation of commercial digital displays, controls, and diagnostics in 60kW engine generators. 275 Initiated testing of lightweight 5kW, 10kW and 15kW generator sets. Total 744 	nmercial vari lercial digital ht 5kW, 10kV	uble speed c displays, co V and 15kW	able speed constant frequency technology in a 3kW engine gendisplays, controls, and diagnostics in 60kW engine generators. W and 15kW generator sets.	ency techno iagnostics in ts.	ology in a 3k 60kW engii	W engine ge ne generator	nerator. S.			
FY 1996 Planned Program: 122 Complete evaluation of commercial digital displays, controls and diagnostics in 60kW engine generators. 95 Initiate evaluation permanent magnet generators with associated electronics. 9 3 SBIR/STTR 1 Revised Economic Assumption not available for execution Total 221	mercial digit: t magnet gen ion not avail:	l displays, c erators with ble for exec	ontrols and c associated el ution	liagnostics i lectronics.	n 60kW engi	ine generato	Ŕ			
FY 1997 Planned Program: • 217 Evaluate digital display controls and diagnostics over the family of generator sets. Total 217	irols and diag	nostics over	the family o	f generator s	ets.		:			
Project DG11			Page 10 of 35 Pages	f 35 Pages			Exhi	oit R-2 (PE	Exhibit R-2 (PE 0603804A)	

RDT&E BUDGET ITEM JUST	M JUST	FICATI	ON SH	EET (R	FIFICATION SHEET (R-2 Exhibit)	oit)		DATE March	March 1996	
вирсет АСТІVITY 4 - Demonstration and Validation			PE NUN 0603 Adva	PE NUMBER AND TITLE 0603804A Logis Advanced Deve	PE NUMBER AND TITLE 0603804A Logistics and Advanced Development	and Engi ent	ineering	PENUMBER AND TITLE 0603804A Logistics and Engineering Equipment - Advanced Development	PROJECT DG11	лест 11
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995 Appropriated Amount (FY 1996)		EX 1995 812 795 -51	EY 1996 227 223	99 <u>6</u> 227 223	EY 1997 223					
Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current President's Budget Submit	vo	744		-2	-6 217					
C. Other Program Funding Summary RDTE, 0604804A.D194, Engine Driven	FY 1995 1943	FY 1996 812	EX 1997 2230	FY 1998 269	EY 1999 286	FY 2000 702	FY 2001 704	Ö	To Compl Cont	Total Cost Cont
Generators Engineering Development OPA3, MA9800 Generators and Associated Equipment	25842	13332	13187	15165	87244	115040	99705		Cont	Cont
D. Schedule Profile	FY 1995 2 3	4	FY 1	FY 1996 2 3	4 1	FY 1997 2 3	97 3 4			
Demonstrated and tested new ingritweign. 5kW, 10kW, and 15kW generators sets Tested variable speed constant frequency components in generators sets Evaluate digital display, controls and diagnostics in 60kW set Test commercial state-of-the-art technologies for insertion to FY 99 buy	₹	*			×		, ×			
* Completed Milestones										
Project DG11			Page 11 of 35 Pages	15 Pages			Exhi	Exhibit R-2 (PE 0603804A)	304A)	





RDT&E PROGRAM ELEMENT/	PROJECT COST BREAKDOWN (R-3)	COST BE	REAKDO	WN (R-	3)	DATE March 1996	1996	
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUMBER AND TITLE 0603804A Logis Advanced Deve	PENUMBER AND TITLE 0603804A Logistics and Advanced Dev⊛lopment	ics and E	ngineering	PE NUMBER AND TITLE 0603804A Logistics and Engineering Equipment - Advanced Development	PROJECT DG11	ст -
A. Project Cost Breakdown Hardware Development Test and Evaluation Government Engineering and Support Government Program Support Miscellaneous	EY 1995 105 394 95 75 75		FY 1996 104 50 42 25 221	EY 1997 94 73 25 25 217				
B. Budget Acquisition History and Planning Information								
Performing Organizations Contractor or Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity Vehicle Date EAC	Project Office	Total Prior to EY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	Pro	Total Program
Product Development Organizations CPFF 2Q96 Support and Management Organizations: None Test and Evaluation Organizations: None	200		744	221	217		Cont	Cont
Government Furnished Property: None								
Subtotal Product Development Subtotal Support and Management			744	221	217		Cont	Cont
Subtotal Test and Evaluation Total Project			744	221	217		Cont	Cont
Project DG11	Pa	Page 12 of 35 Pages	ges		EXP	Exhibit R-3 (PE 0603804A)	04A)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TEM JUS	TIFICA.	TION SE	HEET (R	-2 Exhi	bit)		DATE Ma	March 1996	ဖ
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NU 060 Adv	PE NUMBER AND TITLE 0603804A Logis Advanced Deve	e number and title 0603804A Logistics and Advanced Development	and Eng ent	ineering	ENUMBER AND TITLE 0603804A Logistics and Engineering Equipment - Advanced Development		PROJECT DG14
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DG14 Logistics Support Equipment Advanced Development	485	95	88	88	87	96	95		Continuing	Continuing Continuing
			!							

A. Mission Description and Budget Item Justification: This program supports advanced development of new and improved technologies for logistics support equipment such as material handling equipment (MHE).

Acquisition Strategy: Develop engineering prototype and award competitive contract for production or select NDI equipment based on Market Investigation and RFPs from industry.

FY 1995 Accomplishments:

Completed testing of cargo container retriever (CCR) prototypes. 366

Completed development of CCR stereo vision enhancement. 119

Total

FY 1996 Planned Program:

Initiate contract package for Visibility Improvements for forklift Carriages (VIC).

Initiate VIC test.

SBIR/STTR

Revised Economic Assumption not available for execution

Total

FY 1997 Planned Program:

40 Conduct technical testing of VIC prototypes.
48 Complete materiel change management docus
88

Complete materiel change management documentation for VIC.

Total

Project DG14

Page 13 of 35 Pages







RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	M JUST	FICATION	HS NC	ET (R-	2 Exhib	Į €		DATE March 1996	1996	
BUDGET ACTIVITY 4 - Demonstration and Validation	; ; ;		PE NUM 06038 Adva	PE NUMBER AND TITLE 0603804A Logistics and Advanced Development	ne gistics a velopme	and Engi	neering	PE NUMBER AND TITLE 0603804A Logistics and Engineering Equipment - Advanced Development	PROJECT DG14	5 —
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995		FY 1995 516 505 -20	FY 1996 97		FY 1997 90					
Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996	9			₹ 🕶	-5					
President's Budget Current Budget Estimate Submission		485		95	88					
C. Other Program Funding Summary RDTE, 0604804.DH14, Logistics Support	FY 1995 2476	EY 1996]	FY 1997 88	FY 1998 88	FY 1999 88	FY 2000 96	FY 2001 95	P)	To Compl	Total Cost Cont
Equipment OPA3, M41200, All Terrain Lifting Articulating		13954	15953		10600	10600	10600	0	Cont	Cont
System OPA3, ML5365, Items Less Than \$2.0M (CSS-	4641	2152	2688	2146	5890	6502	7855	0	Cont	Cont
EQ) OPA3, M41200, Truck, Fork Lift, 50K lb		10587			20000	31388	31785	0	Cont	Cont
D. Schedule Profile	FY 1995 2 3	4	FY 1 2	FY 1996 2 3	4	FY 1997 2 3	3 4			
Completed testing of CCR prototypes Conduct CCR Milestone II	*×			×	×					
forklift Carriages (VIC) Complete testing of VIC prototypes Complete materiel change management documentation for VIC							×			
* Completed Milestones										
Project DG14		, I	Page 14 of 35 Pages	S Pages			Exhib	Exhibit R-2 (PE 0603804A)	04A)	
			589							

RDT&E PROGRAM ELEMENT/P	ENT/PRO	JECT C	OST BR	EAKDO	ROJECT COST BREAKDOWN (R-3)	<u> </u>	DATE March 1996	96
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NUMBER AND TITLE 0603804A Logis Advanced Deve	PE NUMBER AND TITLE 0603804A Logistics and Advanced Development	ics and Ei	ngineering	DITITIE Logistics and Engineering Equipment - Development	PROJECT DG14
A. Project Cost Breakdown Hardware Development Test and Evaluation Government Engineering and Support Government Program Support Total		FY 1995 310 70 105 485	FY 1996 57 38 95	99 <u>6</u> 57 38 95	FY 1997 45 43 88			
B. Budget Acquisition History and Planning Information Performing Organizations Contractor or Contract Government Method/Type Award or Perform Performing or Funding Obligation Activ Activity Vehicle Date E. Product Development Organizations: None Support and Management Organizations: None	rmation Performing Activity EAC	Project Office EAC	Total Prior to EY 1995	EY 1995	EY 1996	FY 1997	Budget to Complete	Total
Test and Evaluation Organizations: None Miscellaneous TARDEC In-House Various TECOM Government Furnished Property: None			498	415	95	&	Cont	Cont
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Subtotal Miscellaneous Total Project			687	485 485	95 95	∞ ∞	Cont	Cont
Project DG14		Page	Page 15 of 35 Pages	es		Exhil	Exhibit R-3 (PE 0603804A))
			290					





	RDT&E BUDGET ITEM JUST	EM JUS	TIFICA	FIFICATION SHEET (R-2 Exhibit)	IEET (R	-2 Exhil	oit)		DATE M	March 1996	<u></u>
BUDGET ACTIVITY 4 - Demonstrati	BUDGET ACTIVITY 4 - Demonstration and Validation	. · · · · .		PE NU 060 Adv	PE NUMBER AND TITLE 0603804A Logis Advanced Deve	PE NUMBER AND TITLE 0603804A Logistics and Engineering Equipment Advanced Development	and Engi ent	neering l	Equipme		Р R ОЈЕСТ DK39
ט	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DK39 General Support Development	General Support Equipment Advanced Development	835	959	698	1449	1428	1720	1871		Continuing	Continuing
A. Mission Description and Budge environmental control requirements.	A. Mission Description and Budget Item Justification: Develop and demonstrate the potential of prototype equipment to satisfy water purification, maintenance and environmental control requirements.	ation: Deve	op and dem	onstrate the	potential of	prototype eq	uipment to s	atisfy water	purification	, maintenanc	e and
Acquisition Strategy	Acquisition Strategy: Transition to development of engineering	f engineering	prototypes	prototypes or select NDI based on market survey and proposals from industry.	I based on n	narket surve	y and propos	als from ind	ustry.		
FY 1995 Accomplishments:	hments: Developed computer model for Environmental Control Unit (ECU) performance. Initiated ECU Prototype Fabrication. Completed test and evaluation of water treatment technologies including pre-treatment, pumps, and reverse osmosis elements.	or Environmication. 1. of water tre	ental Contro atment tech	l Unit (ECU)) performani uding pre-tr	ce. eatment, pun	nps, and rev	erse osmosis	elements.		
FY 1996 Planned Program:	rogram: Investigate commercial technology applicable to 9K British Thermal Units-Heat ECU unit. Conduct Milestone I/II IPR for the Lightweight Water Purifier. Prepare contract package for design/fabrication of prototype Lightweight Water Purifier. Complete evaluation of commercially available Lightweight Water Purifier. SBIR/STTR Revised Economic Assumption not available for execution	ology applicor the Lightw design/fabric nercially ava	able to 9K E eight Water ation of pro ilable Light	ritish Therm Purifier. totype Light weight Water ution	ıal Units-He weight Watt r Purifier.	at ECU unit r Purifier.	·	:			
FY 1997 Planned Program:	rogram: Select components and initial ECU system design. Design and fabricate prototype Lightweight Water Purifier. Initiate Pre-Production Qualification Testing (PPQT) and Initial Operational Test and Evaluation (IOTE) of Lightweight Water Purifiers. Complete market survey of commercial packaged water units and conduct MS I/II IPR for Package Water Systems.	I ECU systen be Lightweig fication Test ommercial p	n design. ht Water Pu ing (PPQT) ackaged wat	rifier. and Initial O er units and	perational T conduct MS	est and Evalı I/II IPR for	uation (IOTI Package Wa	E) of Lightwater Systems.	eight Water	Purifiers.	
Project DK39				Page 16 of 35 Pages	r 35 Pages			Exhib	it R-2 (PE	Exhibit R-2 (PE 0603804A)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	USTIFIC	ATION	SHE	ET (R-	2 Exhib	Ē		DATE March 1996	1996	
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NUMBER AN 0603804A Advanced		PE NUMBER AND TITLE 0603804A Logistics and Advanced Development	ind Engi	neering	ь тпсе Logistics and Engineering Equipment - Development	PROJECT DK39	5 -
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995)	EX	FY 1995 853 835	FY 1996 985		FY 1997 900					
Adjustment to FY 1995 Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current President's Budget Submit		835	ŏ	968 -9 959	-31					
FY	FY 1995 FY 1996 1555 1603	FY	FY 1997 F	FY 1998 2136	FY 1999 2356	FY 2000 2105	FY 2001 2111	To Compl Cont	•	Total Cost
Equipment Engineering Development OPA3, ML5335, Items Less Than \$2.0M (Water Equipment)	3969 2	2320	2970	2899	2894	3063	5243	0	Cont	Cont
D. Schedule Profile FY	FY 1995 2 3	1	FY]	FY 1996 2 3	4	FY 1997 2 3	7 3 4			
Developed ECU performance computer model Initiated ECU Prototype Fabrication Investigate commercial technology applicable to 9K BTUH ECU unit Select components and complete initial	^ ^	* *			×		×			
ECU system design Completed evaluation of water treatment technologies Conduct MS I/II Lightweight Water Purifier IPR	^	**			×					
Project DK39		Page	Page 17 of 35 Pages	Pages			Exhit	Exhibit R-2 (PE 0603804A)	4A)	
			592							





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE March 1996
вирсет АСТІVІТҮ 4 - Demonstration and Validation	ND TITLE A Logistics and d Development	PROJECT Fquipment - DK39
D. Schedule Profile FY 1995	FY 1996 FY 1997 2 3 4 1 2 3 4	
for design/ ght Water ommercially Water Purifiers /P for Lightweight and conduct MS Water Systems	× × × ×	
* Completed Milestones		
Project DK39	Page 18 of 35 Pages Exhil	Exhibit R-2 (PE 0603804A)

RC	RDT&E PROGRAM ELEMENT/P	RAM ELE	EMENT/PR	OJECT (SOST BE	REAKDO	ROJECT COST BREAKDOWN (R-3)	3)	DATE March 1996	1996	
BUDGET ACTIVITY 4 - Demonstr	BUDGET ACTIVITY 4 - Demonstration and Validation	lidation			PE NUMBER AND TITLE 0603804A Logic Advanced Deve	PE NUMBER AND TITLE 0603804A Logistics and Advanced Development	ics and E	ngineering	PE NUMBER AND TITLE 0603804A Logistics and Engineering Equipment - Advanced Development	PROJECT DK39	ст 9
A. Project Cost Breakdown Hardware Development Program Management Support Test and Evaluation Government Engineering and Integrated Logistics Support Total	A. Project Cost Breakdown Hardware Development Program Management Support Test and Evaluation Government Engineering and Support Integrated Logistics Support	tio tio		EY 1995 312 300 223 835		FY 1996 518 45 25 236 135 959	EY 1997 440 60 150 169 50 869				
B. Budget Acqui	B. Budget Acquisition History and Planning Information	d Planning Inf	ormation								
Performing Organizations Contractor or Contra Government Metho Performing or Fur Activity Vehic Product Development Org Support and Management	Performing Organizations Contractor or Contract Government Method/Type Award or Performing or Funding Obligation Activity Vehicle Date Product Development Organizations: None Support and Management Organizations: None	Award or Obligation Date ons: None izations: None	Performing Activity EAC	Project Office <u>EAC</u>	Total Prior to FY 199 <u>5</u>	EY 1995	FY 1996	FY 1997	Budget to Complete		Total Program
Miscellaneous TARDEC/	In-House	Various				317	749	209			1275
CECUM	CPFF	Mar 95 Various				118		450			568 400
ARL	MIPR Task Order	Various Mar 96					15	15			30
TECOM	MIPR	Various					30	150			175
NSF ATCOM	MIPR MIPR	Various Various					85 15	15			85 30
Project DK39				Page	Page 19 of 35 Pages	ses		Exhil	Exhibit R-3 (PE 0603804A)	94A)	
					594						





RDT&F PROGRAM FI FMENT/PROJECT COST BREAKDOWN (R-3)	COST BF	SEAKDO	WN (R-		DATE March 1996	1996	
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603804A Logis Advanced Deve	DE NUMBER AND TITLE 0603804A Logistics and Advanced Development	ics and E	ngineering	DE NUMBER AND TITLE 0603804A Logistics and Engineering Equipment - Advanced Development	PROJECT DK39	
Government Furnished Property: None							
	Total Prior to EY 1995	FY 1995	FY 1996	EY 1997	Budget to Complete	Pro	Total
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation		300	/34 180 25	609 110 150	3 0 0	Cont	Cont
Subtotal Miscellaneous Total Project		835	656	698	ŏ	Cont C	Cont
				:			
Project DK39	Page 20 of 35 Pages	ges	į	Exhi	Exhibit R-3 (PE 0603804A)	34A)	
	505						

RDT&E BUDGET ITEM JUST	EM JUS	TIFICAL	TION SE	IIFICATION SHEET (R-2 Exhibit)	-2 Exhil	bit)		DAIE Z	March 1996	ç
BUDGET ACTIVITY 4 - Demonstration and Validation			PE N. 060 Adv	PE NUMBER AND TITLE 0603804A Logistics and Advanced Development	ritle ogistics evelopm	ENUMBER AND TITLE 0603804A Logistics and Engineering Equipment - Advanced Development	ineering	Equipm		PROJECT DK41
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DK41 POL Distribution Equipment Advanced Development	648	885	891	912	876	958	951		Continuing	Continuing Continuing

A. Mission Description and Budget Item Justification: Develop and demonstrate the potential of prototype equipment to satisfy petroleum distribution requirements.

Acquisition Strategy: Develop engineering prototypes or select NDI based on market surveys and proposals from industry.

FY 1995 Accomplishments:

- Awarded contract and initiated design of Petroleum Quality Analysis Set (PQAS) technology demonstration model. 486 100 62 648
 - Implemented/designed Standard Army Refueling System (SARS) as part of a demonstration vehicle.
 - Completed SARS qualification testing and fabricated adapters.
- Total

FY 1996 Planned Program:

- Conduct system analysis of PQAS function and configuration.
- Complete system design and initiate fabrication of PQAS technology demonstration model. 282 503 79
 - Complete performance TDP for SARS and conduct demonstrations
- SBIR/STTR
- Revised Economic Assumption not available for execution
- Total

FY 1997 Planned Program:

- Update PQAS program management documentation for Milestone II IPR.
 - Prepare solicitation package for PQAS EMD Phase.
- Complete fabrication and development testing PQAS technology demonstration model.

Project DK41

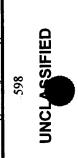
Page 21 of 35 Pages





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	A JUSTIFICATI	ON SHEET (F	R-2 Exhit	oit)	DATE Marc	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUMBER AND TITLE 0603804A Logistics and Advanced Development	TITLE Logistics (and Engineer ent	PE NUMBER AND TITLE 0603804A Logistics and Engineering Equipment - Advanced Development	PROJECT DK41	h
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995	FY 1995 666 652 -4	FY 1996 910	FY 1997 920				
Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996		694 -9	-29				
President's Budget Current Budget Estimate Submission	648	885	891				
C. Other Program Funding Summary	FY 1995 FY 1996	FY 1997 FY 1998	FY 1999	FY 2000 FY	FY 2001	To Compl	Total Cost
RDTE, 0604804.DL41, POL Distribution Equipment Engineering Development							Cont
D. Schedule Profile	FY 1995 2 3 4	FY 1996 1 2 3	4	FY 1997 2 3	4		
PQAS solicitation ted/designed SARS for demo	*X						
vehicle Completed SARS qualification testing,	**						
tabricated adapters Awarded contract to design PQAS	**						
technology demo model Conduct system analysis of PQAS		×		1			
Complete SARS performance TDP and conduct demonstrations		<	;				
Initiate fabrication of PQAS tech demo model			×		;		
Prepare solicitation package for PQAS EMD Phase					×		
Project DK41	I	Page 22 of 35 Pages			Exhibit R-2 (PE 0603804A)	3804A)	
		597					

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhibit)	E March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PENUMBER AND TITLE 0603804A Logistics and Engineering Equipment - Advanced Development	PROJECT Jipment - DK41
D. Schedule Profile FY 1995	FY 1996 FY 1997 7	
n		
* Completed Milestones		
Project DK41	Page 23 of 35 Pages Exhibit R	Exhibit R-2 (PE 0603804A)

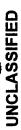




RDT	&E PROG	RDT&E PROGRAM ELEMENT/	MENT/PRO	PROJECT C	OST BE	EAKDO	COST BREAKDOWN (R-3)		DATE March 1996	1996	
BUDGET ACTIVITY 4 - Demonstration and Validation	ion and Val	lidation			PE NUMBER AND TITLE 0603804A Logis Advanced Deve	PE NUMBER AND TITLE 0603804A Logistics and Advanced Development	cs and Er pment	ngineering	PE NUMBER AND TITLE 0603804A Logistics and Engineering Equipment - Advanced Development	PROJECT DK41	-
A. Project Cost Breakdown Hardware Development Test and Evaluation Government Engineering and Support Government Program Support Total	akdown ent ring and Suppo	Ę		FY 1995 512 20 20 91 25 648	EY 1996 690 50 95 50 885		FY 1997 696 50 95 50 891				
B. Budget Acquisition History and Planning Information	ion History and	l Planning Info	rmation								
Performing Organizations Contractor or Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity Vehicle Date EAC Product Development Organizations: TARDEC Support and Management Organizations: ARL, ATCOM, TACOM Test and Evaluation Organizations: TECOM, TEXCOM	contract Method/Type or Funding Vehicle int Organization Organization	Award or Obligation Date ons: TARDEC zations: ARL,	Performing Activity EAC ATCOM, TACON	Project Office EAC	Total Prior to EY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	Ä	Total Program
Miscellaneous: TARDEC ETG TECOM	In-House CPFF MIPR	Various Sep 95			329 433	217	142	206 540 120	00	Cont	Cont
TEXCOM ARL ATCOM TACOM	MIPR MIPR MIPR	Feb 96 Mar 96 Mar 96			37	15 30	15 50 72	15	000	Cont Cont	Cont Cont Cont
Government Furnished Property: None	shed Property:	None									
Project DK41				Page	Page 24 of 35 Pages	šes		Exhi	Exhibit R-3 (PE 0603804A)	04A)	
					599						

RDT&E PROGRAM ELEMENT/PROJECT	ROJECT COST BREAKDOWN (R-3)	REAKDO	WN (R-	≘	DATE March 1996	1996	
вирсет АСТІVІТУ 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603804A Logis Advanced Deve	PE NUMBER AND TITLE 0603804A Logistics and Advanced Development	cs and Ei pment	ngineering	PE NUMBER AND TITLE 0603804A Logistics and Engineering Equipment - Advanced Development	PROJECT DK41	т —
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Subtotal Miscellaneous Total Project	Total Prior to 799 799	FY 1995 603 45 648	EY 1996 860 25 885	EY 1997 746 25 120 891	Budget to Complete		Total Program
				į	יייייייייייייייייייייייייייייייייייייי	Š	
Project DK41	Page 25 of 35 Pages	ıges		TX.	EXNIBIT K-3 (PE U6U38U4A)	04A)	





RDT&E BUDGET ITEM JUST	TEM JUS	TIFICAL	ION SE	HEET (R	TIFICATION SHEET (R-2 Exhibit)	oit)		DATE	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NL 060 Adv	PE NUMBER AND TITLE 0603804A Logis Advanced Devel	E NUMBER AND TITLE 0603804A Logistics and Engineering Equipment - Advanced Development	and Engi ent	neering	Equipme		PROJECT D266
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D266 Airdrop Equipment Advanced Development	1197	1452	1444	1452	1452	1433	1611		Continuing	Continuing Continuing

A. Mission Description and Budget Item Justification: Conduct accelerated demonstration and validation of airdrop systems and equipment that will provide advanced personnel and cargo airdrop capabilities over a range of altitudes with offset emphasis on improved safety and greater precision, balanced with reduced vulnerability of personnel, aircraft, aircrew and equipment.

Acquisition Strategy: Single cycle accelerated development with type classification directly upon successful conclusion of Demonstration/Validation development.

FY 1995 Accomplishments:

- Designed, fabricated and began testing prototype Enhanced Container Delivery System (ECDS) to improve accuracy, enhance load survivability and expand range of critical resupply operations (food, water, fuel and medical supplies) from high to low altitudes.
 - Total

FY 1996 Planned Program:

- Conduct combined technical/user testing of the ECDS.
- Evaluate Advanced Tactical Parachute System (ATPS) candidates from market survey. System intended to increase the safety and lethality of Force 300
 - XXI Airborne assault operations.
- Revised Economic Assumption not available for execution
- Total

FY 1997 Planned Program:

- Design, fabricate and conduct technical/user testing of prototype ATPS.
 - Conduct Milestone II/III for ECDS. 441
- Total

Project D266

Page 26 of 35 Pages

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FICATION	ON SHEET (R	-2 Exhit) E	ā	DATE March 1996	1996	
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUMBER AND TITLE 0603804A Logistics and Engineering Equipment Advanced Development	nr∟E ogistics ≀ evelopm€	and Engin	eering E	quipment -	PROJECT D266	TO
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995 Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996	EY 1995 1224 1199 -2	EY 1996 1493 1467 -15	EY 1997 1496 -52					
President's Budget Current President's Budget Submit	1197	1452	1444					·
C. Other Program Funding Summary FY 1995 RDTE, 0604804.D279: Airdrop Equipment Engineering Development	FY 1996 I	FY 1997 FY 1998 1444 1452	FY 1999 1452	FY 2000 1480	FY 2001 1468	30	To Cont	Total Cost Cont
D. Schedule Profile 1 2 3 Designed and fabricated ECDS Conclude testing of ECDS Evaluate ATPS from market survey Conduct MS II/III for ECDS Design, fabricate and conduct user/technical testing of ATPS	4 *	FY 1996 1 2 3	4 ×× -	FY 1997 2 3	ν. κ 4 ×			
* Completed Milestones								
Project D266	P	Page 27 of 35 Pages			Exhibit	Exhibit R-2 (PE 0603804A)	34A)	





RDT&E PROGRAM ELEMENT/PRO	PROJECT COST BREAKDOWN (R-3)	ST BF	EAKDC	WN (R-	<u>@</u>	DATE March 1996	1996	
BUDGET ACTIVITY 4 - Demonstration and Validation	8 0 4	PE NUMBER AND TITLE 0603804A Logis Advanced Deve	PE NUMBER AND TITLE 0603804A Logistics and Advanced Development	ics and E	ngineering	PE NUMBER AND TITLE 0603804A Logistics and Engineering Equipment - Advanced Development	PROJECT D266	F.
A. <u>Project Cost Breakdown</u> Primary Hardware Development Test and Evaluation Government Support and Management	FY 1995 871 273 53 1197	FY 1996 918 459 75 1452	199 <u>6</u> 918 459 75 1452	FY 1997 1019 350 75 1444				
B. Budget Acquisition History and Planning Information Performing Organizations Contractor or Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity		Total Prior to				Budget to	1	Total
Vehicle Date velopment Organizations In-House	EAC	FY 1995 22858	FY 1995 853	FY 1996 618 300	FY 1997 601 418	Complete		Program Cont
QMSCH/OGA MIPK Support and Management Organizations SSCOM		590	53	75	75	. 0	Cont	Cont
Test and Evaluation Organizations TECOM/OGA SSCOM		1763	153 120	336 125	300	00	Cont	Cont
Government Furnished Property: None								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project		22858 590 1763 25211	871 53 273 1197	918 75 159 1452	1019 75 350 1444		Cont Cont Cont	Cont Cont Cont
Project D266	Page 2	Page 28 of 35 Pages	ses		Exhi	Exhibit R-3 (PE 0603804A)	04A)	
		603	*					

603

RDT&E BUDGET ITEM JUST	EM JUS		TION SE	HEET (R	IFICATION SHEET (R-2 Exhibit)	bit)		DATE	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NL 060 Adv	PE NUMBER AND TITLE 0603804A Log Advanced Deve	ENUMBER AND TITLE 3003804A Logistics and Engineering Equipment - Advanced Development	and Engi ent	neering	Equipme		РРОЈЕСТ D428
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D428 Tactical Rigidwall Shelter Advanced Development	289	3482	3951	2594	926	1050	1042		Continuing	Continuing Continuing

A. Mission Description and Budget Item Justification: Develop a family of tactical rigid wall shelters to enhance soldier survivability and sustainability of command, control, communications and intelligence. These shelters provide highly mobile, joint service platforms for the digitization of the battlefield, housing many critical vehiclemounted battlefield systems, medical critical care in a Chemical/Biological (C/B) environment and high tech maintenance.

Acquisition Strategy: Developments transition to Engineering and Manufacturing Development.

FY 1995 Accomplishments:

•	869	698 Completed fabrication of M105 Cargo Bed Cover (CBC) and completed testing of High Mobility Multipurpose Wheeled Vehicle (HMMWV) and 2-
		1/2 Ton truck CBC. CBCs will protect and secure unit and mission equipment while maintaining critical mission mobility capabilities.
•	91	Completed Large Standard Integrated Command Post System (SICPS) Shelter Pre-production Qualification Test (PPQT) at Aberdeen Proving Ground
		(APG) and Force Development Test and Evaluation (FDTE) at Ft. Hood, TX. The Large SICPS provides Corps Commanders with the ability to
		control a digitized battlefield from a high quality, survivable environment.
Total	789	

FY 1996 Planned Program:

T. I. 1770 I Raillion I 1061 mills		901
•	855	Complete development of CBC variants for HMMWV, complete testing of M105 CBC, and redesign and fabricate 2 1/2 ton truck CBC.
•	2540	Complete technical testing of Large SICPS Shelter, fabricate Operational Test (OT) shelters, prepare manuals, and begin OT.
•	77	SBIR/STTR
•	10	Revised Economic Assumption not available for execution
Total	3482	

Project D428

Page 29 of 35 Pages





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	USTIFICAT	ION SHE	ET (R-	2 Exhib	Œ		DATE March 1996	1996	
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUM 06038 Adva	PE NUMBER AND TITLE 0603804A Logic Advanced Deve	E NUMBER AND TITLE 0603804A Logistics and Advanced Development	nd Engir nt	neering E	PE NUMBER AND TITLE 0603804A Logistics and Engineering Equipment - Advanced Development	PROJECT D428	ст ж
 FY 1997 Planned Program: 945 Complete development of M105A1 CBC and award design/fabrication contract for M and HMT-Heavy CBC. Complete retesting and development of 2 1/2 ton truck CBC 1447 Conduct OT of the Large SICPS Shelter, prepare documentation for MS I/III IPR and 	BC and award de sting and develo er, prepare docur	sign/fabricatio pment of 2 1/2 nentation for l	n contract f ton truck (AS I/III IPR	or M101 Tra CBC.	ailer CBC, F	ligh Mobility	and award design/fabrication contract for M101 Trailer CBC, High Mobility Trailer-Light (HMT-L) CBC, ng and development of 2 1/2 ton truck CBC. prepare documentation for MS I/III IPR and prepare the specification and solicitation package for production	HMT-L) CE e for produ	3C,
 contract. 1559 Write scope of work, assemble solicitation package, review proposals and award a contract for the design and fabrication of prototype survivable command post shelters that will provide ballistic protection, protection from directed energy and fuel air weapons and enhanced NBC protection. Total 3951 	ıtion package, rev de ballistic protec	/iew proposals :tion, protectio	and award n from dire	a contract fo	or the design and fuel air	ı and fabrica weapons and	n package, review proposals and award a contract for the design and fabrication of prototype survivable ballistic protection, protection from directed energy and fuel air weapons and enhanced NBC protection.	survivable protection.	
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995)	FY 1995 806 789	FY		FY 1997 4089					
Adjustment to FY 1995 Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996		ĸ	3517 -35	-138					
President's Budget Current President's Budget Submission	789		3482	3951					
E	1995 FY 1996	EY 1997	FY 1998 2386	FY 1999 1093	EY 2000 1240	FY 2001	Ö	To Compl	Total Cost
RDIE, 0604804, SICPS Rigidwall Sneiter Engineering Development OPA2, BZ9962, SICPS	6	27360	27638	24760	30884	35916		Cont	Cont
D. Schedule Profile FY	FY 1995 2 3 4	FY 1 2	FY 1996 2 3	4	FY 1997 2 3	. 7 . 8			
Completed testing of HMMWV CBC Completed PPQT of Large SICPS Shelter Complete testing and redesign of M105	* *	×		· 8 ···					
Trailer CBC Complete development of HMMWV CBC		Dana 30 of 35 Pages	Pages	×		П Vhihi	Evhihit R-2 (DE DE038046)	(4)	
Project D428		I use so of s.	1 uges				11-2 (1 5 00000	(V1)	

RDT&E BUDGET ITEM JUSTIFICATION	IFICATION SHEET (R-2 Exhibit) DATE	March 19
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603804A Logistics and Engineering Equipment - Advanced Development	PROJECT D428
D. Schedule Profile	FY 1996 FY 1997	
n	· ×	
* Completed Milestones		
Project D428	Page 31 of 35 Pages Exhibit R-2	Exhibit R-2 (PE 0603804A)





RDT&E PROGRAM ELEMENT/PRO.	PROJECT C	OST BF	REAKDO	COST BREAKDOWN (R-3)	<u></u>	DATE March 1996	966	
and Validation		PE NUMBER AND TITLE 0603804A Logis Advanced Deve	PE NUMBER AND TITLE 0603804A Logistics and Advanced Development	ics and E	ngineering	PE NUMBER AND TITLE 0603804A Logistics and Engineering Equipment - Advanced Development	PROJECT D428	[
A. Project Cost Breakdown Primary Hardware Development Test and Evaluation Program Management Support Total	EY 1995 456 279 54 789		FY 1996 2485 700 297 3482	E <u>Y 1997</u> 3300 325 326 3951				
B. Budget Acquisition History and Planning Information								
Performing Organizations Contractor or Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity Vehicle Date EAC	Project Office EAC	Total Prior to EY 1995	EY 1995	FY 1996	EY 1997	Budget to Complete	뜊	Total gram
Product Development Organizations SSCOM In-House Various		14241	58 382	200	400	ŏŏ	Cont C	Cont Cont
Corp Brunswick Ft. Belvoir MIPR			16	800	009	Ŏ	Cont	Cont
CASCOM Support and Management Organizations SSCOM		3551	54	297	326	Ö	Cont	Cont
Test and Evaluation Organizations TECOM MIPR		7229	279	700	325	S	Cont	Cont
Government Furnished Property: None								
Subtotal Product Development Subtotal Support and Management		14241 3551 7220	456 54 279	2485 297 700	3300 326 325	000	Cont	Cont Cont Cont
Subtotal Test and Evaluation Total Project		25021	789	3482	3951	O		Cont
Project D428	Page	Page 32 of 35 Pages	ıges		Exh	Exhibit R-3 (PE 0603804A)	4A)	1
		607						

209

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA	TION SI	HEET (F	IFICATION SHEET (R-2 Exhibit)	bit)		DATE	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NC 060 Adv	PE NUMBER AND TITLE 0603804A Logic Advanced Deve	E NUMBER AND TITLE 0603804A Logistics and Engineering Equipment Advanced Development	and Engi ent	neering	Equipme		РРОЈЕСТ D526
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D526 Marine Orientation Log Equipment Advanced Development	371	0	0	0	338	0	0		Continuing	Continuing
A. Mission Description and Budget Item Justification: This project provides advanced development of technology necessary to improve marine logistical equipment. The effort for a Containerized Machine Shop (CMS) was focused on providing an enhanced state-of-the-art watercraft repair facility in a containerized system. The CMS will be easily transportable and capable of being mounted on a container ship.	cation: This S) was focuse ounted on a c	project prov d on provid ontainer shi	ides advance ing an enhan p.	ed developm	oject provides advanced development of technology necessary to improve marine logistical equipment. on providing an enhanced state-of-the-art watercraft repair facility in a containerized system. The CMS ntainer ship.	ology necess	ary to improacility in a	ve marine le containerize	ogistical equi d system. Ti	pment. ne CMS
Acquisition Strategy: RDTE followed by competitive procurement.	itive procure	nent.								
 FY 1995 Accomplishments: 75 Completed Army Watercraft Master Plan. • 128 Completed concept development of Deployable Watercraft Maintenance Facility (DWMF) which was previously called a CMS. • 168 Concept development initiated for Port/Watercraft Communications Suite. Total 371 	: Master Plan. nent of Deple ed for Port/W	yable Wate atercraft Co	rcraft Mainte mmunicatio	enance Facil ns Suite.	iity (DWMF)	which was p	reviously c	alled a CMS	,	
FY 1996 Planned Program: None										
FY 1997 Planned Program: None									,	
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustments to FY 1995 Adjustments to FY 1996)		EY 1995 383 375 -4		FY 1996	EY 1997					
Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current President's Budget Submit	9661	8	371							
Project D526			Page 33 o	Page 33 of 35 Pages			Exhi	bit R-2 (PE	Exhibit R-2 (PE 0603804A)	
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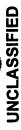




RDT&E BUDGET ITEN	M JUSTIFICATI	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUMBER AND TITLE 0603804A Logistics and Engineering Equipment - Advanced Development	PROJECT ing Equipment - D526
C. Other Program Funding Summary: None			
D. Schedule Profile	FY 1995	FY 1996 FY 1997	4
DWMF Contract Awarded (option) Held In-Process Review Report/Concept Acceptance			
* Completed Milestones			
		~	
Project D526		Page 34 of 35 Pages	Exhibit R-2 (PE 0603804A)
		609	

RDT&E PROGRAM ELEMENT/PRO.	ROJECT COST BREAKDOWN (R-3)	ST BR	EAKDC	WN (R-	<u> </u>	DATE March 1996	96
BUDGET ACTIVITY 4 - Demonstration and Validation	PE O A	PE NUMBER AND TITLE 0603804A Logis Advanced Deve	PE NUMBER AND TITLE 0603804A Logistics and Advanced Development	ics and Ei pment	ngineering	Σππε Logistics and Engineering Equipment - Development	РКОЈЕСТ D526
 A. <u>Project Cost Breakdown</u> Contractor Engineering Support Program Management Support Total 	FY 1995 348 23 371	FY 1996	96	FY 1997			
B. Budget Acquisition History and Planning Information							
Award or Performing Obligation Activity Date EAC	Project Office F EAC E	Total Prior to EY 1995	EY 1995	EY 1996	FY 1997	Budget to <u>Complete</u>	Total
Product Development Organizations Miscellaneous SS-FP		217	230				447
Support and Management Organizations NSWC ATCOM Test and Evaluation Organizations: None		200 46	118				318
Government Furnished Property: None							
Subtotal Product Development Subtotal Support and Management		21 <i>7</i> 246	230			Cont	Cont
Subtotal Test and Evaluation Total Project		463	371			Cont	Cont
Project D526	Page 3.	Page 35 of 35 Pages	es		Exhi	Exhibit R-3 (PE 0603804A))
		610					





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICAT	TION SE	IEET (R	-2 Exhi	bit)		DATE	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NU 060 Sys	PE NUMBER AND TITLE 0603805A Combat Service Support Control System Evaluation and Analysis	пте combat S luation a	ervice Si nd Analy	upport C	ontrol		
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	18462	13555	13140	7821	7858	0	0		Continuing	Continuing
D091 Combat Service Support Control System	17735	12054	11119	5937	5936	0	0		0	136516
D246 Tactical Communications System-Advanced Development	438	1501	2021	1884	1922	0	0		Continuing	Continuing
D2GT CSSCS Operational Test	289	0	0	0	0	0	0		0	289

which is a component of the Army Battle Command System (ABCS). Project D246, Tactical Communications System - Advanced Development, provides for insertion of and is therefore appropriately funded in Budget Activity 4. Projects D091 and D246 include research efforts that support the engineering and manufacturing development and resource management. CSS control centers must provide a rapid decision support capability and supportive information to commanders more quickly than is possible CSSCS Operational Test supports planned operational test & evaluation of CSSCS. Project D246 provides for the demonstration and validation of advanced technologies Combat Service Support (CSS) Commander and his staff to rapidly collect, store, analyze, and disseminate CSS information to support the functions of command, control with the present manual systems. This program develops the CSS battlefield functional area (BFA) node of the Army Tactical Command and Control System (ATCCS) proven communications technology from program element 0602782A, Project AH92 exploratory development into advanced development. Examples of these potential programs are the Multiband, Multimode Radio, high power solid state amplifiers and couplers, and packet appliques used to increase network efficiency. Project D2GT, Mission Description and Budget Item Justification: Project D091, the Combat Service Support Control System, is a computer software system designed to assist the phase of the acquisition strategy and should therefore be placed in Budget Activity 5.

Page 1 of 12 Pages

RDT&E BUDGET ITEM JUST	EM JUS	TIFICAL	TION SH	IEET (R	IIFICATION SHEET (R-2 Exhibit)	oit)	Ď	DATE	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NU 060 Sys	PE NUMBER AND TITLE 0603805A Com! System Evaluati	PENUMBER AND TITLE 0603805A Combat Service Supp System Evaluation and Analysis	ervice Sind Analy	ENUMBER AND TITLE 3603805A Combat Service Support Control System Evaluation and Analysis	itrol	d C	РRОЈЕСТ D091
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D091 Combat Service Support Control System	17735	12054	11119	5937	5936	0	0		0	136516

CSS Commander and his staff to rapidly collect, store, analyze, and disseminate CSS information to support the functions of command, control and resource management. A. Mission Description and Justification: Project D091, Combat Service Support Control System. The CSSCS is a computer software system designed to assist the CSS control centers must provide a rapid decision support capability and supportive information to commanders more quickly than is possible with the present manual systems. This program develops the CSS BFA node of the ATCCS, which is a component of the ABCS.

Acquisition Strategy: Acquisition strategy is to pursue an evolutionary development process to complete user requirements for Version 3 and follow-on tailored IOTE-II. IOT&E II on Version 3 is planned for September - November 1996. Versions 4 and 5 will be developed under the Army Global Command and Control System (AGCCS) There are five versions, of which two have been completed and the third completed Initial Operational Test & Evaluation (IOT&E) I in September 1994. A follow-on contract awarded in December 1994.

FY 1995 Accomplishments:

- 14430 Continued development of Version 3 software
- 2305 Continued fielding assessment of Version 3 at Ft. Hood
- Prepared documentation and conducted Army Systems Acquisition Review Council (ASARC) III (Low Rate Initial Production (LRIP) & Command, 1000
 - Control, Communications and Intelligence (C3I) Committee Review

Total 17735

FY 1996 Planned Program:

- 3500 Continue Version 3 software development
- 3714 Begin Version 4 software development
- Continue LRIP activity in accordance with Acquisition Decision Memo at III Corps 2000
- Prepare for and conduct Army Warfighter Experiment (AWE) and Task Force XXI activities.
- Prepare and conduct Version 4 Preliminary Design Review (PDR) and Critical Design Review (CDR) 800
 - 1000 Prepare for and begin IOTE-II
 - 256 SBIR/STTR
- 34 Revised Economic Assumptions Not available for execution

Cotal 12054



Page 2 of 12 Pages

RDT&E BUDGET ITEM JUST	TIFICATION SHEET (R-2 Exhibit)	N SHE	ET (R-	2 Exhib	Ē		DATE Marc	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUM 0603 Syste	PE NUMBER AND TITLE 0603805A Com System Evaluat	PE NUMBER AND TITLE 0603805A Combat Service Supp System Evaluation and Analysis	rvice Su d Analy	PE NUMBER AND TITLE 0603805A Combat Service Support Control System Evaluation and Analysis	ntrol	PROJECT D091	1
 FY 1997 Planned Program: 2800 Complete Version 3 software development 5269 Continue Version 4 software development 1000 Conclude IOTE-II 800 Prepare documentation and conduct ASARC III (Full Scale Production (FSP)) and C31 Committee Review 500 Begin fielding of Version 3 750 Begin Version 4 Limited User Test (LUT) Total 11119 	C III (Full Scal	e Producti	on (FSP)) ar	nd C31 Comr	nittee Revi	M a			
B. <u>Project Change Summary</u> Previous President's Budget (FY 96) Appropriated Amount (FY 1995)	EX 1995 18096 17735	FX 1996 12404		FY 1997 11489					
Adjustments to FY 1995 Appropriated Amount (FY 1996) Adjustments to FY 1996 Adjustments to Budget Year (FY 1997) since		12	12176 -122	-370					
FY 1996 President's Budget Current President's Budget Submit	17735	12	12054	11119		,			
Change Summary Explanation: Funding: FY 96 - (-122) the portion of this program that has been proposed for rescission. FY97 - (-370) reduction due to revised inflation rates.	nas been propose rates.	d for rescis	sion.						
C. Other Program Funding Summary	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001		To Compl	Total Cost
Procurement, OPA 2 (W34600) 5977 Spares (MA9706/BS9706) 1402		5813 885	5826 300	5826 193	14034	13936			122234 5878
Project D091	Ь	Page 3 of 12 Pages	. Pages			Exhibit	Exhibit R-2 (PE 0603805A)	3805A)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	M JUSTIFICATION	ON SHEET (R-2	=xhibit)	DATE Ma	March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUMBER AND TITLE 0603805A Combat Service Support Control System Evaluation and Analysis	bat Service Su ion and Analys	pport Control is	PROJECT D091
D. Schedule Profile	FY 1995	FY 1996	FY 1997	7 3 4	
ASARC III (LRIP) X C3I Committee Review X V4 PDR V4 CDR V3 IOTE-II ASARC III (FSP) FUE V3 V4 LUT		× ×		× • ××	
*Milestone Complete					
Project D091		Page 4 of 12 Pages		Exhibit R-2 (PE 0603805A)	03805A)

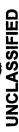




RDT&E	PROGE	RDT&E PROGRAM ELEMENT/	MENT/P	PROJECT COST BREAKDOWN (R-3)	COST BI	REAKDO	OWN (R-		DATE N	March 1996	6
BUDGET ACTIVITY 4 - Demonstration and Validation	and Valid	dation	; ;		PE NUMBER AND TITLE 0603805A Com System Evaluat	AND TITLE SA Comb	PENUMBER AND TITLE 0603805A Combat Service Supp System Evaluation and Analysis	PENUMBER AND TITLE 0603805A Combat Service Support Control System Evaluation and Analysis	ontrol	ž O	РRОЈЕСТ D091
A. <u>Project Cost Breakdown</u> Software Development Program Management Support COE/CHS/Common Support Operational Test and Evaluation SBIR/STTR Revised Economic Assumptions - Not available for execution	vn oort ation otions - Not	available for e	xecution	EY 1995 11000 3003 2900 832 17735	집	EY 1996 7214 2050 1500 1000 256 34 12054	EY 1997 7129 1320 900 1770				
B. Budget Acquisition History and Planning Information Performing Organizations Contractor or Contract Government Method/Type Award or Perform Performing or Funding Obligation Active Activity Vehicle Date E	n History and ations Contract Method/Type or Funding	Planning Info	prmation Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	FY 1995	EY 1996	FY 1997		Budget to Complete	Total Program
: Developmen : developmen : developmen : Developmen	t Organization C/CPFF C/CPAF C/CPAF	s 7/87 2/91 12/94	15731 57990 TBD	15731 58000 TBD	15731 43932 0 1545	0 9500 1500 2000	0 3500 3714 1000	0 0 7129 900		0 0 5603 500	15731 56932 17946 5945
Support and Management Organizations PM CSSCS CECOM SDC-LEE SDC-HUACHUCA MIPR EER/VITRO/ MIPR	ont Organiz PR PR PR	ations			11546 706 0 350 1601	1905 204 136 135 910	856 304 250 150 1050	400 320 265 165 1000		875 650 520 330 2000	15582 2184 1171 1130 6561
FEDSIM SBIR/STTR Rev Econ Assmp Test and Evaluation Organizations	ganizations						256 34	:			256 34
Project D091				P	Page 5 of 12 Pages	ıges		Exhil	bit R-3 (PE	Exhibit R-3 (PE 0603805A)	

RDT	RDT&E PROGRAM ELEMENT/P	RAM ELI	EMENT/PR(SJECT	ROJECT COST BREAKDOWN (R-3)	REAKD	OWN (R-		DATE	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation	tion and Vali	idation			PE NUMBER AND 0603805A System Ev	PE NUMBER AND TITLE 0603805A Comb System Evaluation	PE NUMBER AND TITLE 0603805A Combat Service Supp System Evaluation and Analysis	D TITLE Combat Service Support Control aluation and Analysis		ā 0	РRОЈЕСТ D091
Contractor or Government Performing Activity GOVT EPG/CAC	Contract Method/Type or Funding Vehicle MIPR	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to EX 1995 1939 238 1538	EX 1995 350 175 20	FY 1996 250 170 20	EX 1997 250 170 20		Budget to Complete 500 355	Total Program 3289 1108
Government Furnished Property Contract Method/Type Award Item or Funding Obligat Description Vehicle Date Product Development Property CHS-TRW/LMC MIPR Support and Management Property: None Test and Evaluation Property CHS-III CORPS MIPR	ished Property Contract Method/Type or Funding Vehicle ent Property MIPR agement Propert on Property MIPR	Award or Obligation <u>Date</u> ty: None	Delivery Date		Total Prior to FY 1995 2201	FY 1995 900	FY 1996 500	EY 1997 500	*	Budget to Complete 500	Total Program 4601 2408
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	evelopment nd Management valuation				63409 14203 6123 83735	13900 3290 545 17735	8714 2900 440 12054	8529 2150 440 11119		6603 4375 895 11873	101155 26918 8443 136516
				<i>a</i>	Price 6 of 12 Prices	SODE		э <u>н</u> Х	10 8.3 10	Exhibit R-3 (PE OG038054)	
Project D091				,	616	33,53				(V000000 -	





RDT&E BUDGET ITEM JUST	EM JUS	TIFICA	TION SE	TIFICATION SHEET (R-2 Exhibit)	१-2 Exhi	bit)		DATE	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NI 060 Sys	PE NUMBER AND TITLE 0603805A Combat Service Support Control System Evaluation and Analysis	⊓⊓∟E Sombat S Iuation a⊨	ervice Sind Analy	upport C	ontrol	ā O	РРОЈЕСТ D246
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D246 Tactical Communications System-Advanced Development	438	1501	2021	1884	1922	0	0		Continuing	Continuing Continuing

MSE TPN, ETC) and emerging communications devices using gateways and routers. Gateways will also provide the link to Strategic levels. This capability will result in the tactical equivalent of the Information Highway and will support key battlefield functional areas to include logistics reporting, telemedicine, etc. The Tactical Internet will use integrating, and testing the Tactical Internet components prior to TF XXI, Division XXI, and Corps XXI. New services and components will be added and tested as required integration and testing of a mix of mature and prototype products which will be used to develop a Tactical Internet capability. The Tactical Internet will be the primary data communications infrastructure at Corps and below for Force XXI and will revolve around interconnecting a mix of existing (e.g.: SINCGARS, SINCGARS SIP, EPLRS, and leverage commercial network standards and products. The "Internet Protocol" (IP) suite will be used to provide seamless communications with the capability to A. Mission Description and Budget Item Justification This project will validate the new Tactical Internet capability required for Force XXI. It provides definition, dynamically route data to hosts. It will be designed to facilitate technology insertion. The focus of this project will be to reduce the technical risk by assembling, for each iteration leading up to Force XXI.

Acquisition Strategy: The efforts funded in this project are non-system specific, therefore no acquisition strategy is provided.

FY 1995 Accomplishments:

•	105	Procured Commercial off the shelf (COTS) Adaptive High frequency (HF) Applique, for field evaluation
•	135	Demonstration and partial integration of components and instrumentation into the DIL testbed
•	198	Documented SATCOM Paging requirements
Total	438	

FY 1996 Planned Program:

1 2 5 5	
	33 SBIR/STTR
	4 Revised Economic Assumption - Not Available for Execution.
Total 15	\$01

Page 7 of 12 Pages

Project D246

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE March 1996	966
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLI 0603805A Com System Evalua	PENUMBER AND TITLE 0603805A Combat Service Support Control System Evaluation and Analysis	ontrol	РКОЈЕСТ D246
 FY 1997 Planned Program: 678 Provide on-site tactical internet technical support at Ft Hood and Ft Irwin for TFXXI 889 Insert new technologies and expand the testbed to address requirements for Division size networks 350 Develop and provide empirical test data for the Division 98 simulation exercise 104 Incorporate latest DBC/BITS Products Total 	d and Ft Irwin for equirements for D simulation exerci	TFXXI ivision size networks se		
nary EY 19 et (FY 1996) 4 Y 1995) 4	FY 1996 1565	<u>FY 1997</u> 2092		
Adjustments to FY 1995 Appropriated Amount (FY 1996) Adjustments to FY 1996 Adjustment to Budget Year (FY 1997) since	1516	-71		
FY 1996 President's Budget Current President's Budget Submit	1501	2021		
Change Summary Explanation: Funding: FY 95 (-1) reprogrammed for higher priority efforts FY 96 (-15) the portion of this program that has been proposed for rescission. FY 97 (-71) decrement is due to revised inflation rates	ed for rescission.			
C. Other Program Funding Summary There are no other related RDT&E or other appropriation efforts.	other appropriatio	n efforts.		
D. Schedule Profile The efforts in this project are non-system specific; therefore	specific; therefore no milestones are provided.	re provided.		

Project D246

Page 8 of 12 Pages





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BREAKE	00WN (R-3)	DATE March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603805A Com System Evaluat	PE NUMBER AND TITLE 0603805A Combat Service Support Control System Evaluation and Analysis	
A. Project Cost Breakdown CECOM RDEC INTERNAL TECHNICAL SUPPORT CONTRACTOR TECHNICAL SUPPORT TRAVEL & MISC (ROUTERS, CABLES, CONNECTORS) Total B. Budget Acquisition History and Planning Information. Not Applicable	1995 FY 1996 230 695 205 720 3 86 438 1501	FX 1997 1172 720 129 2021	
•			
	3.		·
Project D246	Page 9 of 12 Pages	Exh	Exhibit R-3 (PE 0603805A)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA.	FION S	HEET (R	1-2 Exhi	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NI 060 Sys	PE NUMBER AND TITLE 0603805A Com System Evaluat	PENUMBER AND TITLE 0603805A Combat Service Support Control System Evaluation and Analysis	ervice Si nd Analy	upport C sis	ontrol	.	PROJECT D2GT
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D2GT CSSCS Operational Test	289	0	0	0	0	0	0		0	289
A. Mission Description and Justification: Project D2GT - CSSCS Operational Test, provides funding for the analysis of the PM CSSCS IOT&E test results.	ct D2GT - C	SSCS Oper	ational Test	t, provides fi	ınding for th	e analysis of	the PM CS	SCS IOT&E	E test results.	
Acquisition Strategy: Not Applicable										
FY 1995 Accomplishments: • 289 Evaluated CSSCS IOT&E Test Results/Published Report Total 289	st Results/Pu	blished Rep	ort							
FY 1996 Planned Program: Program not funded in FY 1996	in FY 1996									
FY 1997 Planned Program: Program not funded in FY 1997	n FY 1997									
B. Project Change Summary Previous President's Budget (FY 96) Appropriated Amount (FY 1995) Adjustments to FY 1995		FY 1995 91 89 +200		FY 1996 0	FY 1997 0					
Appropriated Amount (FY 1990) Adjustments to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current President's Budget Submit		28	289	0	0					
Change Summary Explanation: Funding: FY 95 increased to support CSSCS IOT&E.	SCS IOT&E.									
C. Other Program Funding Summary Not Applicable	icable									
Project D2GT			Page 10 o	Page 10 of 12 Pages			Exhil	bit R-2 (PE	Exhibit R-2 (PE 0603805A)	

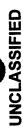




RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603805A Combat Service Support Control System Evaluation and Analysis	
P. Schedule Profile 1 2 3 Perform Analysis - PM CSSCS IOT&E X* X* Data Conduct, test, evaluate CSSCS IOT&E II Conduct, test, evaluate CSSCS LUT * Milestone Complete.	FY 1996 FY 1997 X X X X X X X X X X X X X X X X X X X	-
Project D2GT	Page 11 of 12 Pages	Exhibit R-2 (PE 0603805A)
	621	

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ROJECT C	OST BF	REAKDO	WN (R-	<u>§</u>	DATE March 1996	1996	
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUMBER AND TITLE 0603805A Com System Evaluat	AND TITLE A Comba Evaluatio	PE NUMBER AND TITLE 0603805A Combat Service Supp System Evaluation and Analysis	PE NUMBER AND TITLE 0603805A Combat Service Support Control System Evaluation and Analysis		PROJECT D2GT	
A. Project Cost Breakdown Analysis of PM CSSCS IOT&E Test Data Total	FY 1995 289 289	FY 1996	966	FY 1997 0				
B. Budget Acquisition History and Planning Information								
Performing Organizations Contractor or Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity Vehicle Date EAC Product Development Organizations: None Support and Management Organizations: None	Project Office EAC	Total Prior to EY 1995	EY 1995	FY 1996	FY 1997	Budget to <u>Complete</u>	Pro	Total
Test and Evaluation Organizations OPTEC NA NA 0	0	0	289	0	0		0	289
Government Furnished Property: None								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project			289					289
•								
	,				:			
Project D2GT	Page	Page 12 of 12 Pages	ges		Exhik	Exhibit R-3 (PE 0603805A)	05A)	
		622						





	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SUL ME	TIFICA	ION SE	HEET (R	-2 Exhi	bit)		DATE	March 1996	မွ
80DG 4 - [BUDGET ACTIVITY 4 - Demonstration and Validation			PE NU 060 Dev	PE NUMBER AND TITLE 0603807A Medi Development	PE NUMBER AND TITLE 0603807A Medical Systems - Advanced Development	ystems -	Advanc	þe		
	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
	Total Program Element (PE) Cost	14960	10288	10211	9457	8931	9391	9316	0	Continuing	Continuing
D808	D808 DoD Drug and Vaccine-Advanced Development	7179	3845	3835	3790	3746	3693	3664		Continuing	Continuing
D811	Military HIV Vaccine and Drug-Advanced Development	187	2598	2636	1945	1461	2021	2005		Continuing	Continuing
D836	D836 Combat Medical Materiel-Advanced Development	2915	2660	2905	2893	2867	2832	2809		Continuing	Continuing
D837	D837 Soldier System Protection-Advanced Development	0	1185	835	829	857	845	838		Continuing	Continuing
D993	D993 Medical Defense Against Chemical Threats *	4679	0	0	0	0	0	0		0	11525

* Starting in FY 1996, funding has been consolidated into DOD PE 0604384BP in accordance with P.L. 103-160.

and development efforts (project D993) have been consolidated into DOD PE 0604384BP in accordance with P.L. 103-160. Products developed will provide for maximum initial human testing of vaccines, prophylactic and therapeutic drugs. Additionally, the PE supports AD of field medical equipment and drugs essential for combat casualty capability for medical defense against chemical warfare agents and infectious diseases. Starting in FY 1996, funding for chemical and biological defense medical research physiological and psychological factors affecting cognitive and physical performance imposed by military systems, combat operations or the environment. This includes AD of vision corrective devices. Systems include resuscitators, blood substitutes, field x-ray, and field production of medical grade oxygen. This program is primarily Development (AD) of systems for medical protection against naturally occurring diseases and Human Immunodeficiency Virus (HIV). This includes development and Mission Description and Budget Item Justification: This program element (PE) funds the advanced development of medical materiel necessary to field an effective managed by the U.S. Army Medical Research and Materiel Command. This PE focuses on efforts to demonstrate general military utility to include demonstration and care on a high intensity battlefield while reducing logistical support requirements. The PE also funds AD systems which provide enhancement of or protection against soldier survivability and enhanced sustainability of performance in an environment contaminated with chemical and biological threat. The PE funds Advanced validation in the area of medical materiel and is properly placed in Budget Activity 4.

Page 1 of 17 Pages

RDT&E BUDGET ITEM JUST	EM JUS	TIFICAT	TION SH	HEET (R	TIFICATION SHEET (R-2 Exhibit)	bit)	-	DATE	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NI 060 Dev	PE NUMBER AND TITLE 0603807A Medi Development	πτιε Medical S π	ystems -	E NUMBER AND TITLE D603807A Medical Systems - Advanced Development	D	a 0	РРОЈЕСТ D808
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D808 DoD Drug and Vaccine-Advanced Development	7179	3845	3835	3790	3746	3693	3664		Continuing	Continuing Continuing

validation of candidate medical countermeasures such as vaccines and drugs through safety, immunogenicity, and small scale efficacy testing in volunteers against naturally occurring infectious diseases of mission aborting potential. Work performed in laboratories and among troop populations is directed to prevention, diagnosis and treatment operations. Some major contractors are The Salk Institute, Swiftwater, PA, University of Illinois, Chicago, IL, South Florida Research Institute, Miami, FL, and Kenya of viral, bacterial and parasitic disease, so as to prevent casualties, sustain operational performance and minimize deaths and disability of armed forces during military A. Mission Description and Budget Item Justification: Project D808-DoD Drug and Vaccine-Advanced Development: This project funds demonstration and Medical Research Institute, Nairobi, Kenya.

Acquisition Strategy: Test and evaluate in-house and commercially developed products in extensive government managed clinical trials to gather data required for FDA licensure.

FY 1995 Accomplishments:

- Demonstrated safety and efficacy in Phase I/II trials of malaria vaccine Spf66.
 - Conducted Phase I safety trials with Rift Valley Fever live vaccine. 302
- Conducted initial clinical trials to evaluate human safety and efficacy of antimalarial drugs Halofantrine, WR238605, and azithromycin. 2684
 - Demonstrated efficacy in Phase II trials of Shigella flexneri 2a-2 vaccine. 529
- Demonstrated efficacy in Phase II trials of recombinant hemorrhagic fever with renal syndrome (Hantaan) vaccine. 726 679
 - Demonstrated safety and efficacy in Phase I/II trials of Campylobacter vaccine.
 - Continued Phase II clinical study of antileishmanial drug WR 6026. 675
- Demonstrated and validated off the shelf technologies to develop telemedicine hardware and concepts in the prevention, diagnosis and treatment of infectious diseases.
- Funds will be reprogrammed for SBIR/STTR programs in accordance with the Small Business Innovation Research Program Reauthorization Act of 152

7179 Total Page 2 of 17 Pages

Project D808





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 19
BUDGET ACTIVITY 4 - Demonstration and Validation Development	PROJECT 0603807A Medical Systems - Advanced Development
FY 1996 Planned Program: 1995 Continue safety and efficacy evaluations of antimalarial drugs, azithromycin, Halofantrine, WR238605 and antileishmanial drug WR6026. Initiate development of antimalarial drug artechter and topical antileishmanial drug paromomycin. 1027 Conduct expanded Phase II trials of a malaria blood stage vaccine Spf66. 137 Complete Phase II testing of the recombinant Hantaan vaccine. 52 Demonstrate and validate off the shelf technologies to develop telemedicine hardware and concepts in the prevention, diagnosis and treatment of infectious diseases. 12 Revised Economic Assumption not available for execution. 86 SBIR/STTR	rine, WR238605 and antileishmanial drug WR6026. Initiate yein.
 FY 1997 Planned Program: 2102 Conduct expanded trial to evaluate safety and efficacy of antimalarial drugs WR238605, arteether, Halofantrine, and antileishmanial drugs WR60 and paromomycin. 1114 Conduct Phase 2 testing of the Group B meningococcal vaccine. 464 Conduct Phase 1/2 testing of a recombinant vaccine against hemorrhagic fever renal syndrome caused by puumala virus. 155 Demonstrate and validate off the shelf technologies to develop telemedicine hardware and concepts in the prevention, diagnosis and treatment of infectious diseases. Total 3835 	and efficacy of antimalarial drugs WR238605, arteether, Halofantrine, and antileishmanial drugs WR60626 neningococcal vaccine. In the precine against hemorrhagic fever renal syndrome caused by puumala virus. In the prevention, diagnosis and treatment of the handogies to develop telemedicine hardware and concepts in the prevention, diagnosis and treatment of
oject Change Summary FY 1995 FY 1996 FY nus President's Budget Request (FY 1996) 7254 3953 priated Amount (FY 1995) 7102 1stments to FY 1995 77 3884	<u>1997</u> 3970
-39) year since FY 1996 997 7179 3845	-135 3835
Project D808	Exhibit R-2 (PE 0603807A)
307	

BUDGET ACTIVITY 4 - Demonstration and Validation	RDIGE BUDGE! II EM JUSTIFICATION SHEET (R-Z EXHIBIT) March 1996	
	PE NUMBER AND TITLE 0603807A Medical Systems - Advanced Development	РКОЈЕСТ D808
C. Other Program Funding Summary: Not Applicable D. Schedule Profile: Multiple medical developmental products will advance through various events throughout the FY	ough various events throughout the FY	
FY 1995	FY 1996 FY 1997 7 3 4 1 2 3 4	
	2 × × × × × ×	
Project D808	Page 4 of 17 Pages (PE 0603807A)	



RDT&	E PROGI	RDT&E PROGRAM ELEMENT		PROJECT C	OST B	REAKDO	COST BREAKDOWN (R-3)		DATE	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation	n and Vali	dation			PE NUMBER AND TITLE 0603807A Medi Development	AND TITLE A Medica ment	PE NUMBER AND TITLE 0603807A Medical Systems - Advanced Development	s - Advano	peo	# 0	РRОЈЕСТ D808
A. Project Cost Breakdown Test & Evaluation Product Development Project Management Total	кдомп			EY 1995 3934 2634 611 7179	i i	EY 1996 3025 220 502 3747	FY 1997 2849 631 355 3835				
B. Budget Acquisition History and Planning Information Performing Organizations Contractor or Contract Government Method/Type Award or Perform Performing Activity or Funding Obligation Acti	history and tions Contract Method/Type or Funding	Planning Info Award or Obligation Date	rmation Performing Activity EAC	Project Office EAC	Total Prior to	FY 1995	FY 1996	FY 1997	FY 1998	Budget to Complete	Total
Product Development Organizations Contracts NA Salk Institute CPFF	t Organization NA CPFF	IS NA APR 1988	NA 50556	NA 50556	NA 43325	333 2301	0 220	0 631		Cont	Cont 46511
Support and Management Organizations USAMMDA NA NA Contracts NA NA Treet and Evaluation	ment Organiz NA NA	ations NA NA	NA NA	NA NA	NA NA	384	326 176	227 128		Cont	962
Organizations Walter Reed Army	NA	NA	NA	NA	NA	1919	1885	918		Cont	4958
Inst of Research Army Laboratories Navy Laboratories Contracts	A A A	AN AN AN	N N N	X X X X	N N N N N N N N N N N N N N N N N N N	582 679 754	355 474 311	96 821 1014		Cont Cont	1056 1179 2132
Government Furnished Property: None Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	ed Property: slopment Management luation	None		<		2634 611 3934 7179	220 502 3025 3747	631 355 2849 3835			10832
Project D808		į		Pag	Page 5 of 17 Pages	Ses		Ë	nibit R-3 (PE	Exhibit R-3 (PE 0603807A)	

RDT&E BUDGET ITEM JUST	EM JUS	TIFICAT	TION SH	HEET (R	TIFICATION SHEET (R-2 Exhibit)	bit)	_	DATE	March 1996	(0
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NL 060 Dev	PE NUMBER AND TITLE 0603807A Medi Development	ппе Medical S nt	ystems -	PENUMBER AND TITLE 0603807A Medical Systems - Advanced Development	þ	ā 0	РRОЈЕСТ D811
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D811 Military HIV Vaccine and Drug-Advanced Development	187	2598	2636	1945	1461	2021	2005		Continuing	Continuing

Congressionally-mandated, militarily relevant HIV research for demonstration and validation of candidate vaccines and drugs through safety, immunogenicity and small scale efficacy testing and behavioral intervention in volunteers. Efforts are directed to answer militarily unique needs affecting manning, mobilization and deployment. A. Mission Description and Budget Item Justification: Project D811-Military HIV Vaccine and Drug-Advanced Development: This project funds the

Acquisition Strategy: Test and evaluate commercially developed vaccine candidates in government managed trials.

FY 1995 Accomplishments:

- Prepared infrastructure to conduct field trials of a candidate vaccine to prevent HIV-1 in Thailand.
- Developed potential cohorts for upcoming field trial of HIV preventive vaccine. Enrolled volunteers for Phase I vaccine study. 98 89 187

Total

FY 1996 Planned Program:

- Conduct safety and immunogencity studies in human volunteers in Thailand to determine the best candidate to transition. 1583
 - Continue development of potential cohorts for upcoming field trial. 949

 - Revised Economic Assumption not available for execution.
- SBIR/STTR

2598 Total

FY 1997 Planned Program:

- 2636 Transition to advanced development a vaccine for the prevention of HIV-1.
 - 2636 Total

Project D811

Page 6 of 17 Pages

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	IFICATIO	N SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUMBER AND TITLE 0603807A Medi Development	PE NUMBER AND TITLE 0603807A Medical Systems - Advanced Development	PROJECT
B. Project Change Summary Previous President's Budget Request (FY 1996) Appropriated Amount (FY 1995) Adjustments to FY 1995 Adjustments to FY 1996 Adjustments to FY 1996 Adjustments to Budget (FY 1997) year since FY 1996 Presidents Budget	FY 1995 193 187	EY 1996 2671 2624 -26	EX 1997 2729 -93	
Current Budget Submit For FY 1997 C. Other Program Funding Summary: Not Applicable	187	2598	2636	
D. Schedule Profile: Multiple medical developmental products will advance through various events throughout the FY.	vill advance thro	through various even	nts throughout the FY.	Exhibit R-2 (PF 0603807A)
Project D811	1.0	ge / 0/1/1 uges		

RDT&E PROGRAM ELEMENT/P	RAM ELI	EMENT/PR	OJECT C	OST BF	REAKDO	ROJECT COST BREAKDOWN (R-3)		DATE	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation	lidation			PENUMBER AND TITLE 0603807A Medi Development	AND TITLE A Medica ment	PE NUMBER AND TITLE 0603807A Medical Systems - Advanced Development	- Advan	peo	a 0	РRОЈЕСТ D811
 A. Project Cost Breakdown Test & Evaluation Product Development Project Management Total 			EY 1995 187 0 0 187	EX 1996 2532 0 0 2532	1996 2532 0 0 0 2532	EY 1997 2636 0 0 2636				
B. Budget Acquisition History and Planning Information	d Planning Inf	ormation								
Performing Organizations Contractor or Contract Government Method/Type Award Performing or Funding Obligat Activity Vehicle Date Product Development Organizations: None	Award or Obligation <u>Date</u> ons: None	Performing Activity EAC	Project Office EAC	Total Prior to EY 1995	FY 1995	FY 1996	EY 1997	FY 1998	Budget to Complete	Total Program
Support and Management Organizations Contract NA NA	izations NA	NA	NA	NA	0	0	0		0	0
Lest and Evaluation Organizations Army Laboratories NA Contracts NA	NA NA NA	NA NA	N A A	N N A	0	0 2532	2636		0 Cont	Cont
Government Furnished Property: None	None									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project				N N N N N N N N N N N N N N N N N N N	0 0 187 187	0 0 2532 2532	0 2636 2636		0 Cont	0 0 Cont
Project D811			Pag	Page 8 of 17 Pages	sa		EX	ibit R-3 (PE	Exhibit R-3 (PE 0603807A)	





	RDT&E BUDGET ITEM JUS	EM JUS	TIFICATION SHEET (R-2 Exhibit)	IS NO!	HEET (R	-2 Exhil	oit)		DATE N	March 1996	6
вирбет АСТІVІТУ 4 - Demonstrati	BUDGET ACTIVITY 4 - Demonstration and Validation			PE NU 060 Dev	PE NUMBER AND TITLE 0603807A Medical Systems - Advanced Development	πιε ledical S	/stems -	Advance			РRОЈЕСТ D836
Ö	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D836 Combat Medical	Combat Medical Materiel-Advanced Development	2915	2660	2905	2893	2867	2832	2809		Continuing	Continuing
A. Mission Descript development of new conventional force of	A. Mission Description and Budget Item Justification: Project D836-Combat Medical Materiel-Advanced Development: The project supports advanced development of new and improved systems essential for battlefield casualty care, patient transport and evacuation, and return to duty in support of special contingency and conventional force operations. Primary civilian contractors are University of Illinois, Chicago, IL and Ohemda Corp., Chicago, IL.	ation: Proje Il for battlefie itractors are I	ct D836-Cor ld casualty c Iniversity of	nbat Medic are, patient Illinois, Ch	al Materiel- transport and icago, IL and	Advanced I devacuation dohemda C	evelopmen, and return orp., Chicag	t: The proje to duty in su o, IL.	ect supports ipport of spe	advanced cial continge	ncy and
Acquisition Strategy	Acquisition Strategy: Evaluate commercially developed materiel in government managed tests for hardening or other modification.	eloped mater	el in govern	ment manag	ed tests for l	nardening or	other modif	ication.			
FY 1995 Accomplishments:	hments: Concluded ongoing pre-clinical studies an	sal etndies an	d terminated microencapsulated antibiotic ampicillin.	microencan	sulated antil	iotic ampici	ij				
50	Developed an automated system to deglycerolize frozen blood	em to deglyc	erolize froze	n blood.		4					
120	Completed au-worthiness certification testing of sen-confamed ventilator. Completed market investigation for intraosseous infusion device.	tification test on for intrao	ing or sen-cases secous infusi	ontained ver on device.	itilator.						
283	Completed technical evaluation of the medical-dental filmless imaging system.	on of the med	lical-dental f	ilmless imag	ging system.	hardware an	d concents f	or the treatm	nent of com	oat casualties	
6112	SBIR/STTR programs in accordance with	ordance with	the Small Business Innovation Research Program Reauthorization Act of 1992	isiness Inno	vation Resea	ırch Program	Reauthoriz	ation Act of	1992.		
Total 2915											
FY 1996 Planned Program:	rogram:										
• 52	Complete prototype electrochemical steril	nemical steril	ization system.	ij							
179	Complete evaluation of dental filmless imaging system. Evaluate concents for development of expert medical systems for trauma management.	il filmless im nment of exp	aging system ert medical s	i. vstems for t	rauma mana	gement.					
• 64	Demonstrate performance and safety of far forward suction device.	d safety of fa	r forward su	ction device	_•		;		,		
668	Modify US and allied military/commercial medical equipment used for patient examination, diagnosis and treatment in the field; incorporate	y/commercia ield medical	l medical eque	nipment use s thev come	d for patient on-line.	examination	, diagnosis a	and treatmer	it in the field	l; incorporat	
• 1344	Demonstrate and validate off the shelf technologies to develop telemedicine hardware and concepts for the treatment of combat casualties.	the shelf tec	nnologies to	develop tele	medicine ha	rdware and	concepts for	the treatmen	nt of combat	casualties.	
	Revised Economic Assumption not available for execution	on not availa	ble for execu	tion.							
• 59	SBIR/STTR										
Total 2660								:	!	,	
Project D836				Page 9 of 17 Pages	17 Pages			Exhib	it R-2 (PE	Exhibit R-2 (PE 0603807A)	

RDT&E BUDGET ITEM JUSTIFICATIO	IFICATION SHEET (R-2 Exhibit)	(-2 Exhibit) DATE	March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603807A Med Development	ગ્દ number and Titl⊩ 0603807A Medેડal Systems - Advanced Development	РRОЈЕСТ D836
FY 1997 Planned Program: T12 Initiate programs and conduct human safety studies of a mi combat casualties.	croencapsulated an	studies of a microencapsulated antibiotic (cephalosporin) and a silver nylon burn dressing for treatment of	m dressing for treatment of
 258 Conduct user and technical testing of a system for life support and trauma transport. 191 Transition medical/dental imaging system to procurement. 	ort and trauma tran	sport.	
	ipment used for pay come on-line.	tient examination, diagnosis and treatment in	the field; incorporate
• 667 Demonstrate and validate our the shelf technologies to develop telefficial unit water and concepts for the dealing to concepts and the dealing of configurations. Total 2905	aob telemearchie na	nuwaie and concepts for the treatment of con	
B. Project Change Summary Previous President's Budget Request (FY 1996) Appropriated Amount (FY 1995) Adjustment of EV 1005	<u>FY 1996</u> 2734	FY 1997 3008	
der (FY 1996) 17 1996 dget (FY 1997) year since FY 1996	2686	-103	
Presidents Budget Current Budget Submit For FY 1997	2660	2905	
C. Other Program Funding Summary: Not Applicable			
 D. Schedule Profile: Multiple medical developmental products will advance through various events throughout the FY. FY 1995 FY 1996 FY 1996	rough various even FY 1996 2 3	ts throughout the FY. FY 1997 4 1 2 3 4	
Silver Nylon Burn Dressing MLST 0	>	×	
		4	
Self-Contained Ventilator MLST 1/3 IPR Medical-Dental Filmless Imaging System	NA.	×	
MLST 2 IPR Intraosseous Infusion Device MLST 1 IPR	×	. 4	
Project D836	Page 10 of 17 Pages	Exhibit R-2	Exhibit R-2 (PE 0603807A)



RDT&E PROGRAM ELEMENT	OGRAM EL		PROJECT (SOST BI	REAKDO	COST BREAKDOWN (R-3)	3	DATE	March 1996	6
BUDGET ACTIVITY 4 - Demonstration and Validation	Validation			PE NUMBER AND TITLE 0603807A Medi Development	AND TITLE A Medic ment	al System	PE NUMBER AND TITLE 0603807A Medical Systems - Advanced Development	peo		РРОЈЕСТ D836
A. Project Cost Breakdown Test and Evaluation Product Development Project Management Total			FY 1995 249 1971 695 2915	EX	FY 1996 741 1098 754 2593	FX 1997 579 1951 375 2905				
B. Budget Acquisition History and Planning Information	and Planning Inf	<u>formation</u>								
Performing Organizations Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	ype Award or g Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	EY 1998	Budget to Complete	Total <u>Program</u>
Product Development Organizations Contracts NA I	rations NA NA	NA NA	NA NA	N N NA	1336 635	806	1494 457		Cont	Cont
Support and Management Organizations USAMMDA NA NA NA Contracts NA	ganizations NA NA	N N A	NA NA	N N A	442	616 138	300		Cont	Cont
Test and Evaluation Organizations Army Laboratories NA	tions NA	NA	NA	N A	249	741	579		Cont	Cont
Government Furnished Property: None	rty: None			, , ;		,				
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	ent			Y Y Z Z	1971 695 249 2915	1098 754 741 2593	1951 375 579 2905		Cont Cont Cont	Cont Cont Cont
					Paratic 42					
Project D836			Page	Page 11 of 17 Pages	ses		Ext	nibit R-3 (PE	Exhibit R-3 (PE 0603807A)	
									-	

RDT&E BUDGET ITEM JUST	EM JUS		TION SH	IEET (R	FICATION SHEET (R-2 Exhibit)	oit)		DATE	March 1996	6
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NU 060;	PE NUMBER AND TITLE 0603807A Medi Development	ре NUMBER AND TITLE 0603807A Medical Systems - Advanced Development	/stems -	Advance	þ	d U	PROJECT D837
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D837 Soldier System Protection-Advanced Development	0	1185	835	829	857	845	838		Continuing	Continuing Continuing

validation of preventive medicine materiel, including devices, pharmacologicals and other tools, to provide protection, sustainment, and enhancement of the physiological A. Mission Description and Budget Item Justification: Project D837-Soldier System Protection-Advanced Development: This project supports demonstration and and psychological capabilities of soldiers in the face of combat operations under all environmental conditions. Focus is on reduction in the incidence of personnel losses due to preventable disease and non-battle injuries through development of environmental and physiological performance monitors and other preventive medicine countermeasures.

Acquisition Strategy: Test and evaluate materiel in government managed trials to meet fielding requirements.

FY 1995 Accomplishments: Project not funded.

FY 1996 Planned Program:

- Develop coupling attachments for feasibility study on M-40 protective mask blower as an improved air circulation source for chemical warfare agent protective patient wrap; develop alternative air sources using non-developmental item acquisition strategy
 - Initiate programs and conduct human safety and efficacy studies of performance enhancing drugs melatonin and caffeine.
 - Demonstrate Digital Field Medical Treatment Facility telemedicine appliqué.
 - 887
 - Revised Economic Assumption not available for execution.

FY 1997 Planned Program:

- Conduct physiological testing of candidate air circulation source for chemical warfare agent protective patient wrap.
 - Conduct expanded human safety and efficacy studies of performance enhancing drugs.
- Validate far-forward telementoring and Mobile Medical Mentoring vehicle tactical telemedicine appliqués through participation in digital Force XXI
 - Bde-Corps Advanced Warfighting Exercise. 835

Total

Project D837

Page 12 of 17 Pages



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	IFICATIO	N SHEET (R-2 Exhibit)	DATE March 1996	966
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUMBER AND TITLE 0603807A Medi Development	PE NUMBER AND TITLE 0603807A Medical Systems - Advanced Development		PROJECT D837
B. Project Change Summary Previous President's Budget Request (FY 1996) Appropriated Amount (FY 1995)	EY 1995 0 0	EY 1996 1218	FY 1997 864		
Adjustments to FY 1995 Appropriated Amount (FY 1996) Adjustments to FY 1996 Adjustments to Budget (FY 1997) year since FY 1996		1197	-29		
Presidents Budget Current Budget Submit For FY 1997	0	1185	835		
 C. Other Program Funding Summary: Not Applicable D. Schedule Profile: Multiple medical developmental products will advance through various events throughout the FY. 	will advance thro	ough various eve	nts throughout the FY.		
			* 144 ·		
Project D837	Pas	Page 13 of 17 Pages	5	Exhibit R-2 (PE 0603807A)	7A)

BUDGET ACTIVITY 4 - Demonstration and Validation				EANDO	ROJECT COST BREAKDOWN (K-3)	()	March 1996	9
			PE NUMBER AND TITLE 0603807A Medi Development	ND TITLE A Medica nent	al System	PE NUMBER AND TITLE 0603807A Medical Systems - Advanced Development		Р ROJECT D837
A. Project Cost Breakdown Test & Evaluation Product Development Project Management		FY 1995 0 0 0	EY 1996 0 1103 52 1155	1996 0 1103 52 1155	FY 1997 0 815 20 835			
B. Budget Acquisition History and Planning Information	ıtion							
Award or Per Obligation <u>Oate</u>	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	Total Program
Product Development Organizations Contracts NA NA	NA	NA	NA	0	1103	815	Cont	Cont
Support and Management Organizations USAMMDA NA Test and Evaluation Organizations: None	N A	NA	NA	0	52	20	Cont	Cont
Government Furnished Property: None								
Subtotal Product Development Subtotal Support and Management			N NA A	00	1103	815 20	Cont	Cont
Subtotal Test and Evaluation Total Project			NA	0	1155	835	Cont	Cont
Project D837		Page	Page 14 of 17 Pages	ર્ટ્ક		Exhibit R	Exhibit R-3 (PE 0603807A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA.	TION SI	HEET (R	-2 Exhil	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NI 060 Dev	PE NUMBER AND TITLE 0603807A Medi Development	ntle ledical Si it	ystems -	PE NUMBER AND TITLE 0603807A Medical Systems - Advanced Development	5	. .	РRОЈЕСТ D993
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D993 Medical Defense Against Chemical Threats *	4679	0	0	0	0	0	0		0	11525

countermeasures for chemical agents including life support equipment, pretreatment and therapeutic drugs, and individual/casualty decontamination compounds. A system of medical defense against chemical agents is required to provide individual soldiers protection, to sustain their performance in a chemical environment, and to provide for A. Mission Description and Budget Item Justification: Project D993-Medical Defense Against Chemical Threats: This project funds advanced development of self-aid and medical treatment of chemical casualties. Major contractors include Battelle Memorial Institute, Columbus, OH, SRI International, Menlo Park, CA, and University of Illinois, Chicago, IL.

Acquisition Strategy: Multiple products-test and evaluate in government managed trials, in-house developed drugs and skin protectants.

FY 1995 Accomplishments:

•	286	286 Conducted extensive non-clinical (primate) studies of efficacy of nerve agent antidote HI-6; terminated development.
•	196	7 Conducted human safety studies of topical skin protectant; initiated Phase II studies to demonstrate effectiveness against mild vesicating
•	81	Conducted technical testing of the multichambered autoinjector.

ng agents.

Initiated development program for anti-cyanide.

Funds will be reprogrammed for SBIR/STTR programs in accordance with the Small Business Innovation Research Program Reauthorization Act of Fested commercial products for use in the chemical protective patient wrap. 1108 193 67

Demonstrated and validated off the shelf technologies to develop telemedicine hardware and concepts.

4679 Total FY 1996 Planned Program: Project moved to DoD PE 0603384BP, Project 993.

FY 1997 Planned Program: Project moved to DoD PE 0603884BP, Project MC4.

Project D993

Page 15 of 17 Pages

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	IIFICATIO	N SHEET (DATE March 1996	(0
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUMBER AND TITLE 0603807A Medi Development	PE NUMBER AND TITLE 0603807A Medical Systems - Advanced Development		PROJECT D993
B. Project Change Summary Previous President's Budget Request (FY 1996) Appropriated Value Adjustments to Appropriated Value	EY 1995 6071 6004 -1325	EY 1996 0	FY 1997 0		
Presidents Budget Current Budget Submit For FY 1997	4679	0	0		
Change Summary Explanation: Funding: Funds were reprogrammed to Army PE 0604807, Project A848 to conduct studies on pyriodostigmine bromide to address questions and concerns on	107, Project A848 to con	to conduct studi	es on pyriodostigmine bromide to addre	ss questions and concer	ns on

drug interaction and gender related differences arising out of Operation Desert Storm.

Technical: Planned development effort for the second generation nerve agent antidote system (NAAS(HI-6)) was terminated at a special IPR based on the member's assessment of the high regulatory and fiscal risk associated with fielding, and the failure of the system to produce a significantly greater level of protection than the currently fielded item (2-PAM/ATR).

C. Other Program Funding Summary: Not Applicable

D. Schedule Profile: Multiple medical developmental products will advance through various events throughout the FY.

638

Page 16 of 17 Pages

Project D993



RDT&E PROGRAM ELEMENT/	RAM ELE	EMENT/PR	PROJECT C	OST BF	REAKDO	COST BREAKDOWN (R-3)	()	DATE	March 1996	6
BUDGET ACTIVITY 4 - Demonstration and Validation	dation			PE NUMBER AND TITLE 0603807A Medi Development	AND TITLE A Medica ment	al System	ਮਸਸ਼ Medical Systems - Advanced ent	þə	<u>a</u> 0	PROJECT D993
A. Project Cost Breakdown Test & Evaluation Product Development Project Management Total			EY 1995 2228 638 1813 4679	FY 1996 0 0	966 0 0	EY 1997 0 0 0				
B. Budget Acquisition History and Planning Information	Planning Info	ormation								
Performing Organizations Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	FY 1995	EY 1996	FY 1997		Budget to <u>Complete</u>	Total Program
Product Development Organizations Contracts	IS NA	NA	NA	NA	638	0	0	0	Cont	Cont
Support and Management Organizations USAMMDA NA NA NA Contracts NA NA	ations NA NA	NA NA	NA NA	NA NA	1328 485	00	00	00	Cont	1328
Test and Evaluation Organizations Army Laboratories NA Contracts NA	NA NA	N NA	NA NA	NA NA	345 1883	0 0	00	00	Cont	345
Government Furnished Property: None	None									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project					638 1813 2228 4679					
Project D993			Page	Page 17 of 17 Pages	des		Exhil	oit R-3 (PE	Exhibit R-3 (PE 0603807A)	

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA.	TION SI	HEET (R	IIFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NI 060 Val	PE NUMBER AND TITLE 0603854A Artill Validation	PENUMBER AND TITLE 0603854A Artillery Systems Demonstration and Validation	ystems	Jemonst	ration an	ō	
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	0	0	258771	326525	296659	42983	0		0	924938
D505 Crusader - Advanced Development	0	0	255916	324285	296054	42983	0		0	919238
DC68 Tractor Yeoman	0	0	2855	2240	909	0	0		0	5700

AFAS-AD, DB88 FARV-AD. This Program Element focuses on efforts associated with the technology demonstration and validation of Crusader (AFAS and FARV) and is correctly placed in Budget Activity 4. This single project combines both Crusader SPH-AD (D409) and Crusader RSV-AD (DB88) into one line in FY97 based upon the 15 Crusader will have significantly increased capabilities in the areas of lethality, mobility, survivability, resupply, command and control, and sustainability by capitalizing on emerging, advanced technologies. The SPH will also achieve increased lethality levels through independent mission execution. The RSV will have significantly increased Mission Description and Budget Item Justification: This Program Element supports the Demonstration and Validation efforts for the Crusader - AD Program, formerly called Advanced Field Artillery System (AFAS) and Future Armored Resupply Vehicle (FARV), the Army's next generation indirect fire cannon and artillery resupply system for the heavy force. Formally, these efforts were included in PE 0603645A, Armored Systems Modernization (ASM) Advanced Development as Projects D409 Nov 94 Defense Acquisition Board (DAB) Review. The Crusader system is the Army's next generation self-propelled howitzer (SPH) and resupply vehicle (RSV) capabilities in the areas of resupply, mobility and survivability and will provide a single source of ammunition, fuel, propellant and other supplies for the SPH.

Page 1 of 5 Pages





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SUL ME	TIFICA	TION SE	HEET (R	-2 Exhi	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NI 060 Vali	PE NUMBER AND TITLE 0603854A Artillery Systems Demonstration and Validation	ппс A rtillery S	ystems l	Demonst	ration ar		РRОЈЕСТ D505
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D505 Crusader - Advanced Development	0	0	255916	324285	296054	42983	0		0	919238
A. Mission Description and Budget Item Justification: This project supports the Demonstration and Validation efforts for the Crusader - AD Program, formerly called Advanced Field Artillery System (AFAS) and Future Armored Resupply Vehicle (FARV), the Army's next generation indirect fire cannon and artillery resupply system for the heavy force. Formally, these efforts were included in PE 0603645A, Armored Systems Modernization (ASM) Advanced Development as Projects D409 AFAS-AD, DB88 FARV-AD. This Program Element focuses on efforts associated with the technology demonstration and validation of Crusader (AFAS and FARV) and is correctly placed in Budget Activity 4. This single project combines both Crusader SPH-AS (D409) and Crusader RSV-AD (DB88) into one line in FY97 based upon the 15 Nov 94 Defense Acquisition Board (DAB) Review. The Crusader system is the Army's next generation self-propelled howitzer (SPH) and resupply vehicle (RSV). Crusader will have significantly increased capabilities in the areas of lethality, survivability, survivability, resupply, command and control, and sustainability by capitalizing on emerging, advanced technologies. The SPH will also achieve increased lethality levels through independent mission execution. The RSV will have significantly increased capabilities in the areas of resupply, mobility and will provide a single source of ammunition, fuel, propellant and other supplies for the SPH.	tion: This Armored Fed in PE 060 of the efforts assubines both (sader system of lethality, and will proven the efforts as the efforts and will proven the efforts as the ef	project supp Resupply Vel 03645A, Arr ociated with Crusader SPI m is the Arm mobility, su hality levels ide a single	orts the Derr hicle (FARV nored Syster the technolc H-AS (D409 y's next gen rvivability, r through inde	nonstration and the Army's Modernized and Crusac eration self-lesupply, conspendent missummittion, furnation,	nd Validatio 's next gener zation (ASM ration and va ler RSV-AD propelled ho nmand and c ssion executi tel, propellar	nn efforts for ration indirect Advanced alidation of (CDB88) into writzer (SPH control, and sontrol, and sontrol, and sontrol	the Crusade at fire cannol Developmen Crusader (AI o one line in o) and resupp sustainability V will have:	r - AD Prog n and artille tt as Project AS and FA FY97 base oly vehicle (by capitali significantl;	roject supports the Demonstration and Validation efforts for the Crusader - AD Program, formerly called esupply Vehicle (FARV), the Army's next generation indirect fire cannon and artillery resupply system for 3645A, Armored Systems Modernization (ASM) Advanced Development as Projects D409 AFAS-AD, ciated with the technology demonstration and validation of Crusader (AFAS and FARV) and is correctly rusader SPH-AS (D409) and Crusader RSV-AD (DB88) into one line in FY97 based upon the 15 Nov 94 is the Army's next generation self-propelled howitzer (SPH) and resupply vehicle (RSV). Crusader will nobility, survivability, resupply, command and control, and sustainability by capitalizing on emerging, ality levels through independent mission execution. The RSV will have significantly increased capabilities a single source of ammunition, fuel, propellant and other supplies for the SPH.	y called ystem for S-AD, orrectly Nov 94 der will ging, apabilities

FY 1995 Accomplishments: See Projects D409 and DB88 in PE 0603645A for accomplishments.

FY 1996 Planned Program: See Projects D409 and DB88 in PE 0603645A planned program.

FY 1997 Planned Program:

	232897	232897 Product Development: Continue developmental efforts under the Crusader Developmental Phases I & II Contract; continue efforts in support of
		maturation and integration of critical technologies. Initiate prototype fabrication and demonstration. Conduct system design review. Conduct Phase I
		IPR (PEO-IPR).
•	20140	Support and Management: Continue project management efforts, to include scientific and engineering analysis, product development team support,
		and engineering management services.
•	2879	Test and Evaluation: Purchase propellant, ammunition and fuzes required for the initiation of EDT-A testing; begin EDT-A testing.
Total	255916	

Project D505

Page 2 of 5 Pages

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	M JUST	IFICAT	ION SHE	ET (R-	2 Exhib	it)		DATE Marc	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NUMBER AN 0603854A Validation	PE NUMBER AND TITLE 0603854A Artill Validation	τιΕ rtillery Sy	stems C	emonst	PE NUMBER AND TITLE 0603854A Artillery Systems Demonstration and Validation	Ϋ́ Ö	РРОЈЕСТ D505
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Value (FY 1995) Adjustment to FY 1995 Appropriated Amount (FY 1996)		FY 1995	FY 1996		EY 1997 267885					
Adjustment to F r 1990 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current President's Budget Submit					-11969					
Change Summary Explanation: Funding: Adjustments in FY97 are the result of Revised	t of Revised	Economic A	Economic Assumptions.							
C. Other Program Funding Summary RDTE, A Budget Activity 4 PE 0603645A, Project D409 Crusader SPH-AD RDTE, A Budget Activity 4	EX 1995 112840 38338	EY 1996 126866 59386	FY 1997	EY 1998	FY 1999	FY 2000	FY 2001		To Compl 0	Total <u>Cost</u> 537489 140833
PE 0603645A, Project DB88 Crusader RSV-AD RDTE, A Budget Activity 5 PE 0604854A, Project D503 Crusader - ED RDTE, A Budget Activity 4					482	318077	492367	∞	804200 28600	1614644 30324
PE 0604854A, Project D2KT AFAS OT RDTE, A Budget Activity 5 PE 0604645A, Project D175 MOFA	6109	6215	6726	•	4220				0	40836
D. Schedule Profile 1 Award Dev Phases I/II Contract SDR Dev Phase I In Process Review (Permission to enter Phase II)	FY 1995 2 3	4	FY 1 2	FY 1996 2 3	4	FY 1997 2 3 X	97 X			
Project D505			Page 3 of 5 Pages	Pages			Exhib	Exhibit R-2 (PE 0603854A)	3854A)	
			CVY							





RDT&E PROGRAM ELEMENT/PR	(PROJECT COST BREAKDOWN (R-3)	OST BF	REAKDO	WN (R-	€	DATE	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUMBER AND TITLE 0603854A Artill Validation	AND TITLE A Artille	ry System	s Demon	PE NUMBER AND TITLE 0603854A Artillery Systems Demonstration and Validation	PROJECT 1d D505	5
A. Project Cost Breakdown Product Development Support and Management Test and Evaluation Total	FY 1995	FY 1996	966	EX 1997 232897 20140 2879 255916				
B. Budget Acquisition History and Planning Information								
Organizations or Contract t Method/Type Award or	Project	Total				-	<u>.</u>	
Performing or Funding Obligation Activity Activity Vehicle Date EAC	Office EAC I	Prior to EY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	l otal Program	
Product Development Organizations United Defense, SS/CPIF Sep 94 TBD	TBD				219817	568823	788640	
Minneapolis, MN AMCCOM,					9280	19770	29050	
Picatinny Arsenal, NJ, Watervliet,								
Arsenal, NY, Rock Island Arsenal, IL								
ARL, Aberdeen Proving Ground,					009	1470	2070	
MD, Watertown,								
Various other					3200	7300	10500	
OGA's and								
Support and Management Organizations					9	1		
PM, Crusader, Picatinny, NJ					8100	1/900	70007	
Project D505	Page	Page 4 of 5 Pages	SS		Ext	Exhibit R-3 (PE 0603854A)	0603854A)	
		643						

RDT	&E PROG	RAM ELI	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	OJECT	COST BI	REAKDO	WN (R-	3	DATE N	March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation	ion and Val	idation			PE NUMBER AND TITLE 0603854A Artill Validation	AND TITLE A Artille On	Artillery Systems Demonstration and	s Demon	stration ar	PROJECT Id D505	 -
Contractor or Government Performing Activity AMCCOM, Picatinny Arsenal,	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	FY 1995	FY 1996	EX 1997 7000	Budget to Complete 15800	Total Program 22800	
Various OGA's and Contractors Test and Evaluation Organizations TECOM, Yuma Proving Grds, AZ, CSTA, APG, MD	ı Organizations	ra.						5040	11250	16290	
Government Furnished Property: None Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	shed Property: velopment I Management aluation	None						232897 20140 2879 255916	597363 44950 21009 663322	830260 65090 23888 919238	
Project D505				P_{ϵ}	Page 5 of 5 Pages	sa		Ĕ	Exhibit R-3 (PE 0603854A)	0603854A)	





RDT&E BUDGET ITEM JUST	EM JUS	TIFICA	TION S	HEET (R	FIFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 4 - Demonstration and Validation			PE NI 060	PE NUMBER AND TITLE 0603856A SCAI	PE NUMBER AND TITLE 0603856A SCAMP BLK II (Space)	LK II (Sp	ace)		1	РРОЈЕСТ D389
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D389 SCAMP BLK II *	0	0	8080	9302	3663	10530	26434		Continuing	Continuing Continuing

COMSEC, TRANSEC and GPS. In addition to operation on Milstar satellites, the SCAMP will operate on all satellites which utilize the MIL-STD-1582C LDR waveform. A. Mission Description and Budget Item Justification: Project D389 - SCAMP BLK II. The Single Channel Anti-Jam Manportable (SCAMP) BLK II Terminal will and receive in the Super High Frequency (SHF) band. It will provide Low Data Rate (LDR) secure voice at 2400 bps and secure data at 75-2400 bps, as well as interface It will operate in the transmit, receive or standby mode throughout an entire mission (typically 30 days). SCAMP BLK II EHF terminal will provide direct support to the Engineering Manufacturing Phase. Project D389 is not a new start; it was restructured from P.E. 0303142A.D386 to P.E. 0603856A.D389. This project provides for the ground tactical users to transmit and receive intelligence, command and control traffic from a base station. It will transmit in the Extremely High Frequency (EHF) band Decision Memorandum. EFE began in FY96 and will continue through FY99. These efforts will provide confidence in technical approach and lead to a Milestone II/III be a manpackable, satellite terminal to be employed by units that require range extension for command and control communications. Block II will be used by priority biological/chemical protection. Engineering Feasibility Efforts (EFE) to develop the SCAMP BLK II in the range of 12-15 pounds was approved in the Acquisition with Common Hardware/Software devices such as the Lightweight Computer Units and the Hand-Held Terminal Unit. The SCAMP BLK II will have embedded tactical warfighter mobile forces with anti-jam protection, low probability of intercept, and low probability of detection. It will have a paging capability and demonstration and validation of advanced technologies and is therefore appropriately funded in Budget Activity 4.

Further weight savings and power efficiency increases will investigate battery technology and lightweight composite materials. The EFE efforts will lead to the Engineering placing emphasis on downsizing the following subsystems: Radio Frequency (RF) Generator, Digital Processor, Transmitter and Antenna. These subsystems will utilize technologies such as Millimeter Microwave Integrated Circuits (MIMIC), custom Very Large Scale Integrated Circuits (VLSIC) and increased efficiency power devices. Acquisition Strategy: SCAMP BLK II will be a manpackable terminal in the 12-15 lb. range. SCAMP BLK II began Engineering Feasibility Efforts (EFE) in FY96 Manufacturing Phase to begin in FY00.

* \$5.8M SCAMP BLK II Engineering Feasibility Efforts (EFE) reported under 0303142A.D386 in FY 1996

FY 1995 Accomplishments: No planned program.

FY 1996 Planned Program: FY 1996 efforts funded under PE 0303142A.D386 (See asterisked note above)

Project D389

Page 1 of 3 Pages

RDT&E BUDGET ITEM JUSTIFICATI	FICATION SHEET (R-2 Exhibit)	R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603856A SCAI	ծ пп.ե SCAMP BLK II (Space)	PROJECT D389
 FY 1997 Planned Program: 6220 Implements integration of Engineering Feasibility Efforts (EFE) for functional prototype terminals 800 Continues paging prototype system efforts 1060 Continues Advanced Research Project Agency (ARPA) advanced communications tehnologies and the Joint Automated Communications Management System efforts Total 8080 	ts (EFE) for functiona	I prototype terminals tions tehnologies and the Joint Auto	omated Communications
B. Project Change Summary Previous President's Budget Appropriated Amount (FY 1995) Adjustment to FY 1995 Appropriated Amount (FY 1996)	FY 1996 0	FY 1997 0	
Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current President's Budget Submit	0	+8080 8080	
Change Summary Explanation: Funding: FY97: Not a new start. (+8310) Funds restructured to 0603856A.D389 from 0303142A.D386 and (-230) reduced due to revised inflation rates.	856A.D389 from 03	03142A.D386 and (-230) reduced du	ue to revised inflation rates.
C. Other Program Funding Summary: Not Applicable			
D. Schedule Profile FY 1995	FY 1996	FY 1997	
.		· · ×	
Project D389	Page 2 of 3 Pages	Exh	Exhibit R-2 (PE 0603856A)
	242		





RDT&E PROGRAM ELEMENT/PROJECT	COST	BREAKDOWN (R-3)	DATE March 1996	
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603856A SCA	SCAMP BLK II (Space)	PROJECT D389	ест 9
A. Project Cost Breakdown Contractor Government Systems Engineering and Project Management Total	EY 1995 EY 1996	EY 1997 2682 5398 8080		
B. Budget Acquisition History and Planning Information				
Performing Organizations Contractor or Contract Government Method/Type Award or Performing Project Performing or Funding Obligation Activity Office Activity Vehicle Date EAC EAC	t Total :e Prior to C FY 1995 FY 1995	5 EY 1996 EY 1997	Budget to Complete	Total Program
Product Development Organizations Other Contracts Govt Support		3482 994	Cont	Cont
Support and Management Organizations Other Contracts Core Support Lincoln Labs Lab Activities Test and Evaluation Organizations: None		554 650 2200 200	Cont Cont Cont	Cont Cont Cont
Government Furnished Property: None				
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project		4476 3604 8080	Cont Cont Cont Cont	Cont Cont Cont
Project D389	Page 3 of 3 Pages		Exhibit R-3 (PE 0603856A)	

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA.	TION SI	HEET (R	TIFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	evelopm	ent	PE N 060	PE NUMBER AND TITLE 0604201A Aircr	PE NUMBER AND TITLE 0604201A Aircraft Avionics	vionics				PROJECT DC97
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DC97 Aircraft Avionics	14059	21442	15008	14787	1335	0	0	0	0	66631

A. Mission Description and Budget Item Justification: This Program Element funds the development of avionics systems required to horizontally and vertically integrate the battlefield (commonly referred to as "digitization of the battlefield"). The following tasks in this PE support research efforts in the engineering and manufacturing development phases of these digitization of the battlefield systems and are, therefore, correctly placed in Budget Activity 5.

Project DC97 - Aircraft Avionics:

- situational awareness and prevention of fratricide. The RDT&E efforts address the Army aircraft weight, space and power limitations by embedding a GPS circuit card acquisition, fire support, assessment of enemy deployments, and logistical support. It also provides Global Time settings for communication systems and assists in into existing onboard avionics systems. In addition, tasks were initiated for the Embedded Inertial Navigation System (EGI) (Air Force lead) for attack and scout The Global Positioning System (GPS) provides Army aviation with extremely accurate and secure location and velocity information critical to navigation, target
- communication capability which is reliable, secure, easy to operate, with automatic link establishment and electronic counter-countermeasures. The AN/ARC-220 will be form/fit interchangeable with the AN/ARC-199 HF radio, meet military standards for compatibility with the 1553 data bus, night vision lighting, data transmission, The AN/ARC-220 Nap-Of-Earth (NOE) Communications High Frequency (HF) radio provides a long-range (300 kilometers), non-line-of-sight digital and voice and shipboard operations.
- real world needs of combat maneuver commanders to perform highly mobile and responsive digital, voice, and imagery command and control (C2) functions in the UHintercommunications facilities for up to six operators, and joint interoperability as well as maritime and air traffic control communications. The A2C2S is in response to communications. It also provides digitized battlefield communications links with Army combined arms team members, joint service and combined force elements, and system will allow Army aviation forces access to C2 and situational awareness information for conduct of close, deep, rear, and security operations. The A2C2S is used costly fratricide incidents via the capability to closely monitor and control operations. Satellite communications provide access to tactical communication systems and designated battle area without sacrificing access to information products or jeopardizing continuity of operations due to command post relocation. Interoperability is 60 helicopter. The UH-60 A2C2S system will enable the commander and essential staff to remain highly mobile with the capability to interject critical C2 across the enhanced with this system by providing the capability to communicate digitally with Navy or Air Force close air support as well as relaying target information. This to provide C2 for disaster relief, peacekeeping, drug interdiction, and both low and high intensity conflict missions. The A2C2S will play a major role in eliminating The Army Airborne Command And Control System (A2C2S) functions as a highly mobile command post. When mounted in the UH-60 helicopter with auxiliary equipment, it provides tactical voice, data, and imagery digitized battlefield communications both in secure and nonsecure modes for corps, division, and brigade commanders. The system provides battle commanders access to critical situational awareness and off-board national asset intelligence information via satellite enables communication with the force and command structure from Joint Chiefs of Staff (JCS) down to battalion when required.

Project DC97

Page 1 of 6 Pages

Exhibit R-2 (PE 0604201A)





	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE	March 1996
BUDGET ACTIVITY 5 - Engineering	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604201A Aircraft Avionics	PROJECT DC97
Acquisition Strategy Collins in July 1994. awarded on a modific Laboratory. The A2C	Acquisition Strategy: This project is comprised of multiple programs. The AN/Collins in July 1994. The GPS EGI production contract for the Army was compet awarded on a modification to the Longbow development contract with McDonnell Laboratory. The A2C2S production contract will be competitively awarded.	Acquisition Strategy: This project is comprised of multiple programs. The AN/ARC-220 development was competitively awarded on a fixed price contract to Rockwell Collins in July 1994. The GPS EGI production contract for the Army was competitively awarded to Honeywell in March 1994. The integration effort for the GPS EGI was awarded on a modification to the Longbow development contract with McDonnell Douglas in December 1994. The A2C2S is being developed by the Naval Research Laboratory. The A2C2S production contract will be competitively awarded.	ract to Rockwell the GPS EGI was val Research
FY 1995 Accomplishments:	Iments: Continued AN/ARC-220 NOE Communications HF Radio Engineering and Manufacturing Development (EMD) E Initiated Preproduction Qualification and continue Project Management Support for AN/ARC-220 NOE Communic Conducted Non-Recurring Engineering for EGI (AH-64D) Completed AH-64D Engineering Change Proposal EGI Integration Completed AH-64D Engineering Change Proposal EGI Integration Continued A2C2S Joint Combat Information Terminal (JCIT)/Work Station Design: Prototype and Demonstration	oments: Continued AN/ARC-220 NOE Communications HF Radio Engineering and Manufacturing Development (EMD) Effort Initiated Preproduction Qualification and continue Project Management Support for AN/ARC-220 NOE Communications HF Radio Conducted Non-Recurring Engineering for EGI (AH-64D) Completed AH-64D Engineering Change Proposal EGI Integration Completed AH-64D Engineering Change Proposal EGI Integration Continued A2C2S Joint Combat Information Terminal (JCIT)/Work Station Design: Prototype and Demonstration	
FY 1996 Planned Program:	Integration Contracts for Design of the Program Management support for development of Enhanced JCIT: 6 use Design and Development of A2 pt Technical Documentation: Test pt A2C2S Workstation Software use development of A2C2S Antenna Test and Demonstration - A2C2S use Program Management support 6 Systems Engineering, Logistics pt d Economic Assumption not available.	f A Kit and Testing for AN/ARC-220 NOE Communications HF Radio or the AN/ARC-220 or the AN/ARC-220 A 2 C 2 S prototypes C 2 S Workstation Consoles and Integration procedures for A 2 C 2 S Engineering Development Model (EDM) a Interface Module (AIM) - Phase II EDM or the A 2 C 2 S cocesses for A 2 C 2 S ble for execution	
FY 1997 Planned Program:	ie Development of Enhanced JCIT, Workstation (ie Development of A2C2S Antenna Interface Moie Development of A2C2S Workstation Software ie Test & Integration Procedures for A2C2S Engi	Consoles and other A2C2S Prime Mission Equipment dule (AIM) neering Development Model (EDM) Exhibit R-2 (PE 0604201A)	4201A)
Project DC9/			

RDT&E BUDGET ITEM JUSTI	IFICATI	ON SHE	FICATION SHEET (R-2 Exhibit)	Exhib	<u> </u>		DATE March 1996	96
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	 	PE NUMBER ANI 0604201A		TITLE Aircraft Avionics	onics			PROJECT DC97
FY 1997 Planned Program: (continued) 1957 Continue System Engineering, Logistics, and Technical Documentation for A2C2S 1918 Continue Program Management Support for the A2C2S Total 15008	I Technical D the A2C2S	Occumentation	on for A2C2	8				
B. Project Change Summary Previous President's Budget Request (FY 1996) Appropriated Value (FY 1995)		EX 1995 14238 13939	FY 1996 22044	EY 1997 2037	-1-			
Adjustments to FY 1996 Appropriated Value Adjustments to Budget Year (FY 1997) Since			21658 -216	12971				
FY 1996 Presidents Budget Current Budget Estimate Submission		14059	21442	15008				
Change Summary Explanation: Funding: FY 95: Reprogramming (+120) required for the Aviation Applied Technology Directorate (AATD) development support of the A2C2S. FY 96: (-216) reflects revised economic assumptions. FY 97: (+12971) increase is required for continued development of A2C2S prototypes.	ng (+120) rec 'Y 97: (+129	quired for th 71) increase	e Aviation ∤ is required	pplied Tec for continu	hnology Dii ed developn	rectorate (AA nent of A2C2	ATD) development su 2S prototypes.	pport of the
C. Other Program Funding Summary Aircraft Procurement, Army (APA): FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	To	o Total
Airborne Avionics - AA0700 BLIN 1022* 11017 Airborne Communications -AA0705 BLIN 1034	-	•		800 44335	2500 46801			3
Airborne Command and Control Console AA0710 BLIN 1027			5916	19093	18720	18576	148800	0 211105
*Represents only part of the funds in AA0700.								
D. Schedule Profile:	FY 1995	4	FY 1996	4	FY 1997	3 4		
Completed EGI Non-recurring Engineering for AH-64 EGI Integration on AH-64D/C (ECP) Continued AN/ARC-220 NDI EMD Effort Initiated Preproduction Qualifications - AN/ARC-220 HF radio								
Project DC97		Page 3 of 6 Pages	Pages			Exhibit	Exhibit R-2 (PE 0604201A)	7





RDT&E BUDGET ITEM JUSTIFICATI	TIFICATION SHEET (R-2 Exhibit) DATE March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604201A Aircraft Avionics	PROJECT DC97
661	FY 1996 FY 1997	
1 2 3 Initiated Integration Contract-A Kit Design and	4 1 2 3 4 1 2 3 4 X	
Test - AN/ARC-220 HF radio		
	×	
Continued A2CS2 JCIT Work Station Design - X		
Prototype and Demonstration	>	
Initiate Development of Enhanced JC11 Prototypes Continue Design and Development of A2C2S	< ×	
Workstation Consoles		
Develop Technical Documentation - A2C2S Test	×	
and Integration Procedures	;	
Initiate A2C2S Prototype Integration	× :	
Initiate A2C2S Workstation Software Development	×÷	
Initiate A2C2S Tests and Demonstrations		
Continue development of A2C2S Antenna	×	
Interface Module	;	
Initiate A2C2S Systems Engineering,	×	
Logistics Processes		
Continue development of Enhanced JCIT,	×	
Work Station Consoles and other		
Prime Mission Equipment		
Continue development of A2C2S Antenna	×	
Interface Module		
Continue development of A2C2S Workstation Software	×	
* Dangton Milantons Completion		
Project DC97	Page 4 of 6 Pages Exhibit R-2 (PE 0604201A)	01A)

RDT	RDT&E PROGRAM ELEMENT/P	RAM ELE	EMENT/PRO	JECT C	SOST BE	REAKDO	ROJECT COST BREAKDOWN (R-3)	<u>@</u>	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	g and Manuf	acturing [evelopment		PE NUMBER AND TITLE 0604201A Aircr	AND TITLE A Aircra	> τπ∟Ε Aircraft Avionics	6		PROJECT DC97	H:
A. Project Cost Breakdown	akdown			FY 1995	Y.	EY 1996	FY 1997				
Product Development Program Management Support:	t et Sunnort			131/4	~	71181	13490				
Government In-House Support	use Support			885		1841	816				
Contract SBIR/STTR/Economic Assumption	ic Assumption					950 539	009				
Total	.			14059		21442	15008				
B. Budget Acquisition History and Planning Information	ion History and	Planning Inf	ormation								
Performing Organizations	zations										
Contractor or	Contract				1						•
Government	Method/Type	Award or	Performing	Project Office	Total Prior to				Budget to	Total	
Ferrollining Activity	Vehicle	Date	EAC	EAC	FY 1995	FY 1995	FY 1996	FY 1997	Complete	Program	
Product Development Organizations	ent Organizatio	us								1	
Rockwell	FFP/OPT	Aug 94	10966	10966	7466	3500				10966	-
International											
Corporation Cedar											
Rapids, IA							•			•	
McDonnell	SS/CPIF	Apr 96	4510	4510			4510			4510	
Douglas		3	7400	2400		3400				3400	
McDonnell	SS/CFIF	Oct 94	2400	246							
Honeywell (EGI)	FFP/OPT	Mar 95	300	300		300				300	-
Naval Research	MIPR	1097	49443	49443	4294	4600	13619	13158	13772	49443	
Laboratory	a dibi	1001	3430	3430	02	120	1250	000	1100	3420	
Aviation Applied	MIFK	(,)	3420	0740	8	241	2021		2011	0210	
l ecnnology Directorate											
Directorate											
											-
Project DC97				Pas	Page 5 of 6 Pages	es		Ä	Exhibit R-3 (PE 0604201A)	0604201A)	
					657						





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	OGRAM EL	EMENT/PR	OJECT	COST B	REAKDO	OWN (R-	3)	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	Inufacturing [)evelopment		PE NUMBER AND TITLE 0604201A Aircr	AND TITLE	ס דודר E Aircraft Avionics	w		PROJECT DC97	٠. د <u>۲</u>
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	ype Award or g Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	FY 1995	EY 1996	EY 1997	Budget to Complete	Total <u>Program</u>	
Support and Management Organizations Aviation MIPR 1Q97 Electronic Combat PM Communications MIPR 1Q97 and Electronics	ganizations 1Q97 1Q97	1441	1441	2014	1412	491	450	300	1441	
USA Aviation and MIPR 1Q97 Troop Command SBIR, STTR, and Economic Assumption Test and Evaluation Organizations: None	1Q97	1773	1773		727	539	300	450	539	***************************************
Government Furnished Property: Not Applicable	rty: Not Applicab	ō								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	ent			11810 2014 13824	11920 2139 14059	19379 2063 21442	14058 950 15008	14872 1250 16122	72039 8416 80455	
Project DC97			$P_{\mathcal{C}}$	Page 6 of 6 Pages	res		EX	Exhibit R-3 (PE 0604201A)	0604201A)	

RDT&E BUDGET ITEM JUSTI	EM JUS	TIFICAL	TION SE	HEET (R	IFICATION SHEET (R-2 Exhibit)	bit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	Developn	nent	PE NI 060	PE NUMBER AND TITLE 0604220A Arme	E NUMBER AND TITLE 0604220A Armed, Deployable OH-58D	eployabl	е ОН-58			PROJECT D538
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D538 Crew Station Mission Equipment Trainer (CSMET)	0	706	1154	0	0	0	0		0	1860

has direct impact on combat readiness and proficiency. The CSMET will support refresher and sustainment training of those skills required to initialize, operate and employ through the use of the actual aircraft is at best limited due to the inability to employ total system capabilities under combat conditions i.e. weapon systems. When the actual aircraft are not available the aviator cannot continue to practice crew skills and as such the aircrew skills continue to decay rapidly. Maintaining a high level of aircrew skill system, Aviator Night Vision Imaging System (ANVIS) display and airborne video tape recorder. The CSMET will network with other simulation devices for collective the weapons systems, aviation survivability equipment, automatic target handover system, communication and navigation equipment, mast mounted sight, data transfer A. Mission Description and Budget Item Justification: The Crew Station Mission Equipment Trainer (CSMET) is a desktop simulation training device that will be Simulations (TDSS) available to fielded Kiowa Warrior units. Currently, the aircraft itself provides the only primary sustainment training device. Training provided training. The project in this Program Element supports research efforts in the engineering and manufacturing development phases of the acquisition strategy and is, designed to support training requirements for the OH-58D Kiowa Warrior flight crew. The CSMET effort responds to the lack of Training Devices, Simulators or therefore, correctly placed in Budget Activity 5.

Government-owned OH-58D Kiowa Warrior Cockpit Procedures Trainer Ada software will be integrated into the computer and image generator hardware of choice based Acquisition Strategy: The acquisition strategy is based primarily on the integration of Government-furnished data and commercially available non-developmental items. on maximum compatibility and interoperability with other aviation simulation systems. Acquisition will be accomplished in four phases -- pre-prototype, prototype, production, and support/sustainment -- and will be accomplished utilizing an Integrated Product Team approach among various Government agencies.

FY 1995 Accomplishments: Project not funded

FY 1996 Planned Program:

- Award Development Contract-Initiate development/build of prototype device
 - Revised Economic Assumption not available for execution
- SBIR/STTR

Page 1 of 3 Pages

Project D538





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	USTIFICAT	HS NOI	EET (R	-2 Exhib) (t)	DATE	E March 1996	1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	opment	PE NUN 0604	PE NUMBER AND TITLE 0604220A Arme	пге rmed, De	ртпы Armed, Deployable OH-58D	OH-58D		PROJECT D538	ест 8
 FY 1997 Planned Program: 718 Complete prototype build/system integration 148 Complete and support development testing 288 Complete and support operational testing Total 1154 	gration esting iting								
B. Project Change Summary Previous President's Budget (FY 1996)	FY 1995		FY 1996 726 713	FY 1997 1194					
Adjustments to FY 1996 Appropriated Value Adjustments to Budget Year (FY 1997) since			<i>L</i> -	-40					
FY 1996 President's Budget Current Budget Submit/President's Budget	0		902	1154					· · · · · · · · · · · · · · · · · · ·
Change Summary Explanation: Funding: FY 1996 and FY 1997 funds reduced for an amount reflecting revised economic assumptions.	r an amount reflect	ing revised e	conomic ass	sumptions.					
nding Summary	FY 1995 FY 1996	FY 1997	EY 1998	FY 1999	FY 2000	FY 2001	To Comp		Total Cost
APA Budget Activity 2 AZ2200 Kiowa Warrior (CSMET)			3230	7390	4210	2550			17380
D. Schedule Profile FY	FY 1995	1 2	FY 1996	4	FY 1997 2	4			-
Award Development Contract (Jan 96) Begin Design Phase (Jan 96) Begin Build Phase (Jul 96) Begin Test Phase (Feb 97)		· × ×	1	· · ×	×				
Project D538		Page 2 of 3 Pages	Pages			Exhibit R	Exhibit R-2 (PE 0604220A)	0A)	
		227							

A. Project Cost Breakdown FY 1995 FY 1995 FY 1996 FY 1997 FY 1997 PROJECT Operational Testing Government Support of Operational Testing Government Support of Operational Testing Total	RDT&E PROGRAM ELEMENT/PROJE	ст со	ST BREAK	ROJECT COST BREAKDOWN (R-3)	DATE March 1996
FY 1995 FY 1996 FY 1 1996 FY 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE 00	NUMBER AND TITLE 604220A Arm	ed, Deployable OH-58D	
	ration Iopmental Testing ational Testing	Y 1995	FY 1996 706 706	FX 1997 718 119 29 189 99	

B. Budget Acquisition History and Planning Information: Not Applicable

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Page 3 of 3 Pages

Project D538



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	FION S	HEET (R	-2 Exhil	bit)		DATE M	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Jevelopm	ent	PE NI 0 6 0	PE NUMBER AND TITLE 0604223A Com	PE NUMBER AND TITLE 0604223A Comanche	ο .				
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	474912	290936	288644	288790	384224	454294	601552		Continuing	Continuing
DC72 T800 Engine Engineering Development (LH)	66726	35830	35616	35663	35531	35384	35073		Continuing	Continuing
D2LT Comanche Operational Test	0	0	0	0	0	0	190		Continuing	Continuing
D327 Comanche	408186	255106	253028	253127	348693	418910	566289		Continuing	Continuing

Comanche and the T800 growth engine. The Comanche is a multi-mission aircraft optimized for the critical battlefield mission of tactical armed reconnaissance. It provides for Limited User Test and Initial Operational Test & Evaluation. Project D327 provides for development of the airframe, mission equipment package, and integration of the prototype efforts and transition to the engineering and manufacturing development phase of the acquisition strategy and are therefore correctly placed in Budget Activity 5. integration of the same into the Comanche aircraft. Project D2LT includes funding for the operational testing of Comanche to include Comanche simulation accreditation whole system to include training and logistic support. The projects in this program element support research efforts that complete Demonstration/Validation (Dem/Val) Vietnam era fleet (AH-1, OH-6, and OH-58A/C). Project DC72 provides for development and qualification of the T800 and growth engines and air vehicle support for weather/high/hot/stand-off capability) and is a key component on the digitized battlefield in winning the information war. The Comanche will replace the obsolescent Mission Description and Budget Item Justification: This program element provides for the development and operational testing and evaluation of the RAH-66 a globally self-deployable attack platform for light/contingency forces. Comanche is the solution to the reconnaissance deficiencies (no night/adverse

Page 1 of 10 Pages

RDT&E BUDGET ITEM JUST	EM JUS		TION SH	HEET (R	IFICATION SHEET (R-2 Exhibit)	bit)		DATE Ma	March 1996	6
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	Jevelopm	ent	PE NI 060	PE NUMBER AND TITLE 0604223A Com	e NUMBER AND TITLE 0604223A Comanche	Ð			# Q	PROJECT DC72
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DC72 T800 Engine Engineering Development (LH)	66726	35830	35616	35663	35531	35384	35073		Continuing	Continuing Continuing

and qualify an advanced technology engine. The project is for the development of a growth T800 engine, utilizing the technology developed and qualified on the 1200 SHP A. Mission Description and Budget Item Justification: Project DC72 - T800 Engine Engineering Development (LH): This project includes tasks to design, develop class baseline T800 engine. The growth engine is for the Army's new RAH-66 Comanche and other applications.

Acquisition Strategy: Continue work with current contractor leading to FAA certification, military qualification and eventual production.

FY 1995 Accomplishments:

10700 Continued basic engine air vehicle support

46085 Continued growth engine development

9941 Continued contractor development testing

Total 66726

FY 1996 Planned Program:

8900 Continue basic engine air vehicle support

Continue growth engine development and conduct growth engine Critical Design Review (CDR) 16467

9578 Continue contractor development testing

784 SBIR/STTR

101 Revised Economic Assumption-not available for execution

Total 35830

FY 1997 Planned Program:

8600 Continue basic engine air vehicle support

14119 Continue growth engine development

12897 Continue contractor development testing

tal 35616

Project DC72

Page 2 of 10 Pages





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET	(R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604223A Com	D TITLE Comanche	PROJECT DC72
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustments to FY 1995 Adjustments to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current Budget Estimate Submission FY 1995 FY 1996 President's Budget FY 1996 President's Budget	EY 1996 36835 35 36192 -362	FY 1997 36840 -1224 35616	
Change Summary Explanation: Funding: FY 1995 (-11769) reflects Congressionally approved reprogramming to Project D327. FY 1996 (-362) reflects revised economic assumptions. FY 1997 (-1224) reflects revised economic assumptions.	ogramming to Project	D327.	
C. Other Program Funding Summary: There are no other related RDT&E or other appropriation efforts.	2E or other appropriati		
D. Schedule Profile FY 1995	FY 1996 1 2 3	FY 1997 4 1 2 3 4	
Continue basic engine air vehicle support Continue contractor development testing X* Continue growth engine development Continue basic engine air vehicle support Continue contractor development testing Continue basic engine air vehicle support Continue basic engine air vehicle support Continue basic engine air vehicle support Continue development testing Continue contractor development Continue contractor development Continue contractor development testing	×××	\times	
Project DC72	Page 3 of 10 Pages	Exhit	Exhibit R-2 (PE 0604223A)
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RDT	RDT&E PROGRAM ELEMENT/P	RAM ELE	EMENT/PRO	JECT C	OST BE	REAKDO	ROJECT COST BREAKDOWN (R-3)	3)	DATE	March 1996	ر ا
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	and Manuf	acturing D	evelopment		PE NUMBER AND TITLE 0604223A Com	AND TITLE A Comanche	nche				PROJECT DC72
A. Project Cost Breakdown Product Development Program Management Support Government Furnished Personnel/Equipment/Facilities Test & Evaluation Total	akdown t t Support ed Personnel/Eq	uipment/Facilli	iies	EY 1995 66475 247 4 0 66726	EY. 3.	EY 1996 34810 1016 4 0 35830	EX 1997 35416 196 4 0 35616				
B. Budget Acquisition History and Planning Information	on History and	Planning Infe	ormation .								
Performing Organizations Contract Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity Vehicle Date EAC Product Development Organizations (includes contractor testing)	contract Contract Method/Type or Funding Vehicle nt Organization	Award or Obligation <u>Date</u> ns (includes co	Performing Activity EAC ntractor testing)	Project Office <u>EAC</u>	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997		Budget to Complete	Total Program
LHTEC (0453) LHTEC (B017)	C/CPFF C/FFP	April 92 Jul 85	276821	536293 276821	90366 276346	66000 475	34 8 10 0	35416 0		Cont 0	Cont 276821
LHTEC(0518) CPFF Jul 93 AVCO (B019) C/FFP Nov 8	CPFF C/FFP	Jul 93 Nov 84	460 128526	460 128526	460 128526	00	0	0 0		00	460 128526
Comanche PMO &	MIPR	240003			12159	205	131	196		Cont	Cont
Cov 1 Agencies PATS contracts Rail SBIR/STTR Frontonic Assumpt	C/FFP C/FFP	Sep 87		96 2806	54 2806	42 0	0 0 885	0 0		0 0	96 2806
Test and Evaluation Organizations Gov't Agencies MIPR	n Organizations MIPR	50	•	9613	9613	0	0	0		0	9613
Project DC72				Page	Page 4 of 10 Pages	S3		Exhit	oit R-3 (PE	Exhibit R-3 (PE 0604223A)	





RDT&E PROGRAM ELEMENT/PROJECT	CT COST BREAKDOWN (R-3)	REAKDO	WN (R-		DATE March 1996	96
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604223A Com	RAND TITLE SA Comanche	nche			PROJECT DC72
Government Furnished Property Contract Method/Type Award or Item or Funding Obligation Delivery Description Vehicle Date Product Development Property: None	Total Prior to FY 1995	EY 1995	EY 1996	FY 1997	Budget to Complete	Total
Support and Management Property Gov't Agencies MIPR Test and Evaluation Property: None	13129	4	4	4	Cont	Cont
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	Total Prior to FY 1995 495698 28148 9613 533459	FY 1995 66475 251 0 66726	EV 1996 34810 1020 0 35830	EY 1997 35416 200 0 35616	Budget to Complete Cont Cont Cont	Total Program Cont Cont Cont Cont
Project DC72	Page 5 of 10 Pages	ses		Exhib	Exhibit R-3 (PE 0604223A)	

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA.	FION S	JEET (R	IFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	ဝ
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	evelopm	ent	PE NI 0 0 0	E NUMBER AND TITLE 0604223A Com	E NUMBER AND TITLE 3604223A Comanche	6				PROJECT D327
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D327 Comanche	408186	255106	253028	253127	348693	418910	566289		Continuing	Continuing Continuing

cavalry system, incorporating significant reductions in personnel and support equipment, capturing the latest combat technologies and capable of accepting upgrades to meet ever-changing threats. It will dominate the battlefield in the close, deep and rear operations; provide a decisive air cavalry capability in day, night, and adverse weather. It A. Mission Description and Budget Item Justification: Project D327 - Comanche: The Comanche helicopter is a highly sustainable and operationally flexible air will be operationally tailorable to regional conflicts and provide the battle commander with timely, detailed reconnaissance information and an unprecedented level of lethality

Acquisition Strategy: Continue work with current contractor leading to Engineering and Manufacturing Development and eventual production.

FY 1995 Accomplishments:

- Continued Dem/Val prototype engineering development 284479
 - Continued contractor development test 85999
- Continued air vehicle manufacturing on prototypes 1 and 2 37708
 - 408186 Total

FY 1996 Planned Program:

- Begin digitization effort 25626
- Continue Dem/Val prototype engineering development 176096
- Conduct first flight, prototype # 1 and continue flight test program 38258
 - Continue manufacturing of prototype # 2 8806
 - SBIR/STTR 5601
- Revised Economic Assumption-not available for execution 719
- 255106

FY 1997 Planned Program:

- Continue digitization effort 25138
- Continue Dem/Val prototype engineering development 168050
- Continue flight test program for prototype # 1 57387
 - 2453
 - Complete manufacturing of prototype # 2

Project D327

253028

Page 6 of 10 Pages





RDT&E BUDGET ITEM JUSTIFI	TIFICATION SHEET (R-2 Exhibit)	HEET (R	-2 Exhit	Œ.		DATE Ma	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE 06	PE NUMBER AND TITLE 0604223A Com	отпе Comanche				PROJECT D327
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount Adjustments to FY 1995 Appropriated Amount (FY 1996 Adjustments to FY 1996 Adjustments to Budget Year (FY 1997) since	EY 1995 408405 399917 +8269	EY 1996 162268 257683 -2577	EY 1997 261769 -8741				
nission	408186	255106	253028				
Change Summary Explanation: Funding: FY 1995 (+8269) reprogrammed from other programs FY 1996 (-2577) reflects revised economic assumptions FY 1997 (-8741) reflects revised economic assumptions							
C. Other Program Funding Summary FY 1995 FY	FY 1996 FY 1997	7 FY 1998	FY 1999	FY 2000	FY 2001	To Compl	Total Cost
						0	385830 761913
Project D327	Page 7 c	Page 7 of 10 Pages			Exhibit	Exhibit R-2 (PE 0604223A)	04223A)

RDT&E BUDGE	T ITE	EM JUSTI	FICA	I Q	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	hibit)		DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	ing De	elopmen	ıţ		PE NUMBER AND TITLE 0604223A Comanche	che			PR(PROJECT D327
Continue air vehicle manufacturing Continue Dem/Val prototype engineering development Award change order for EOC program Update TEMP Continue Dem/Val prototype engineering development Begin digitization effort Conduct First Flight, Prototype # 1 Continue flight test program Continue digitization efforts Continue Dem/Val prototype engineering development Continue flight test program * Milestone completed	-** *×	FY 1995 2 3	→ **	- × × *	FY 1996 X X	- × × × × F	FY 1997 2 3	4		
Project D327				Page	Page 8 of 10 Pages			Exhibit R-	Exhibit R-2 (PE 0604223A)	





RDT&E PROGRAM ELEMENT/	GRAM EL	EMENT/PR	PROJECT (SOST BE	REAKDO	COST BREAKDOWN (R-3)	<u>e</u>	DATE March 1996	96
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	nufacturing [)evelopment		PE NUMBER AND TITLE 0604223A Com	AND TITLE A Comanche	nche			PROJECT D327
A. Project Cost Breakdown Product Development Program Management Support Government Furnished Personnel/Equipment/Facilities Test & Evaluation	/Equipment/Facili	ties	EY 1995 382052 24578 372 1184 408186	EX 22 22 25 25	EY 1996 228764 23938 1266 1138 255106	EY 1997 233976 16052 1000 2000 253028			
B. Budget Acquisition History and Planning Information	and Planning Inf	ormation							
Performing Organizations Contractor or Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity Vehicle Date EAC Product Development Organizations (includes contractor testing)	pe Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office EAC	Total Prior to	FY 1995	EY 1996	FY 1997	Budget to Complete	Total Program
Boeing Sikorsky C/CPIF	April 91	(9	5855400	1342906	382052	228764	233976	Cont	Cont
JPO A004 Other Completed Contracts				370288	0	0	0	0	370288
anago	anizations Sep 87 Oct 91	15513	87000 15513	27089 9136	5865 3325	5558 3052	5500 0	Cont 0	Cont 15513
PATS contracts C/FFP Other Contracts C/FFP PMO/Gov't MIPR				0 7369 57271	13 4839 10536	52 4027 4929	1552 4000 5000	Cont Cont	Cont
Agencies SBIR/STTR Economic						6320			
Assumpt Test and Evaluation Organizations Gov't Agencies MIPR	suo)			6279	1184	1138	2000	Cont	Cont
Project D327			Page	Page 9 of 10 Pages	sa		Exhil	Exhibit R-3 (PE 0604223A)	

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	CT COST B	REAKDO	WN (R-3	(a)	DATE	March 1996	6
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AN 0604223A	PE NUMBER AND TITLE 0604223A Comanche	nche			<u>r</u> 0	PROJECT D327
Government Furnished Property Contract Method/Type Award or Item or Funding Obligation Delivery Description Vehicle Date Product Development Property: None Support and Management Property Other Gov't	Total Prior to EY 1995 9818	FY 1995	FY 1996 1266	FY 1997 1000		Budget to Complete Cont	Total Program Cont
Test and Evaluation Property: None Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	Total Prior to EX 1995 1713194 110683 6279 1830156	EY 1995 382052 24950 1184 408186	EY 1996 228764 25204 1138 255106	EX 1997 233976 17052 2000 253028		Budget to Complete Cont Cont Cont	Total Program Cont Cont Cont Cont
Project D327	Page 10 of 10 Pages	, ages			hibit R-3 (Exhibit R-3 (PE 0604223A)	
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	RDT&E BUDGET ITEM JUS	SUL ME	TIFICA	TION SI	HEET (R	TIFICATION SHEET (R-2 Exhibit)	bit)		DATE M	March 1996	ပ္
BUDGE 5 - E	вирсет Астіуіту 5 - Engineering and Manufacturing Developm	evelopm	ent	PE NI 060	PE NUMBER AND TITLE 0604270A Elect	ve nuмвек and тітLE 0604270A Electronic Warfare (EW) Development	: Warfare	(EW) De	velopme	ınt	
	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
	Total Program Element (PE) Cost	90925	63442	69474	56523	49452	17981	17939		Continuing	Continuing
DL12	DL12 Signals Warfare Development	49600	13692	16414	16223	9884	6666	11416		Continuing	Continuing
DL15	DL15 Army Reprogramming & Analysis Team (ARAT) for Target Sensing Systems (TSS)	3563	2903	3845	4331	9656	0	0		0	18250
DL16	DL16 TROJAN Development (TIARA)	0	531	1288	1363	1430	0	0		0	4612
DL18	DL18 High Value Asset Defense System	5686	7488	9348	0	0	0	0		0	22522
D665	D665 Aircraft Survivability Equipment Development	32076	38828	38579	34606	34542	7988	6523		Continuing	Continuing

infrared/optical battlefield surveillance systems and electronically fused munitions. Existing Army EW systems must be replaced or upgraded to maintain their capability in the face of threat technical advancements. This program element satisfies requirements for brigade, division, corps and higher commanders to conduct electronic warfare to embedded in offensive and defensive weapon systems. The projects in this PE are in the Engineering and Manufacturing Development phase of the acquisition strategy and effective protection of personnel and equipment from electronically fused munitions. TROJAN developments will complete Proof-of-Principle R&D for specific TROJAN meet tactical and Special Electronic Mission Aircraft (SEMA) requirements, attach/scout, and assault/cargo mission requirements. Signals Warfare Development provides (EW), signals warfare (SW), aircraft survivability equipment (ASE), battlefield deception, rapid software reprogramming and protection of personnel and equipment from for an integrated ground-based and heliborne Intelligence and Electronic Warfare Common Sensor (IEWCS) System. The High Value Asset Defense System will provide provide the Army with the capability to degrade or deny hostile forces the effective use of their communications, countermortar/counterbattery radars, surveillance radars, configured into small aperture antenna arrays; search and acquisition capabilities for unattended signal collectors; and new digital intelligence collection, processing and Mission Description and Budget Item Justification: This program element encompasses engineering and manufacturing development for tactical electronic warfare dissemination technology. The ARAT Project will develop, test and equip an Army wide infrastructure capable of rapidly reprogramming electronic combat software hostile artillery. EW encompasses the development of tactical EW equipment and systems mounted in both ground and air vehicles. The systems under this program applications in advanced threat signals processing and prototype software upgrades; high frequency (HF) algorithms for compact antenna array technology (CAT) are therefore correctly placed in Budget Activity 5.

Page 1 of 23 Pages

RDT&E BUDGET ITEM JUS	EM JUS	TIFICAL	TION SE	IEET (R	TIFICATION SHEET (R-2 Exhibit)	oit)		DATE M	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PE NC 0 0	PE NUMBER AND TITLE 0604270A Elect	PENUMBER AND TITLE 0604270A Electronic Warfare (EW) Development	Warfare	(EW) De	velopme		PROJECT DL12
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DL12 Signals Warfare Development	49600	13692	16414	16223	9884	6666	11416		Continuing	Continuing Continuing

for extension of radio Line of Sight (LOS) against target emitters. This project is in the Engineering and Manufacturing Development phase of the acquisition strategy and is enemy conventional and LPI communications emitters. GBCS is an evolutionary, open architecture system which satisfies the Army requirement to conduct tactical ground Intelligence and Electronic Warfare Common Sensor System is the Advanced QUICKFIX (AQF) which provides for a material change to the existing heliborne QUICKFIX the Commander's ability to outmaneuver and destroy the enemy by locating or jamming threat command and control, fire control, and air defenses centers. The GBCS will Communications Intelligence, Electronic Intelligence, Electronic Support, and Electronic Attack against threat communications and noncommunications signals; enhances BLACKHAWK Helicopter (EH-60A), it provides the moving platform necessary to provide for location accuracies sufficient for "steel on target" requirements, as well as ground surveillance radar emissions, and identify enemy conventional and Low Probability of Intercept (LPI) communications and noncommunications emitters and jam be used in two platform configurations. The GBCS-Light (GBCS-L) will be deployed on a highly mobile multipurpose wheeled vehicle (HMMWV) in support of Light A. Mission Description and Budget Item Justification: Signals Warfare Development: Ground Base Common Sensor (GBCS), an intercept and emitter location system, provides division commanders with the capability to search, intercept, listen to, precisely locate for hard-kill or order-of-battle resolution, or render ineffective through electronic attack, threat command and control and fire control communications nets and identify and precisely locate threat countermortar and counterbattery Divisions. The GBCS-Heavy (GBCS-H) will be deployed on a tracked vehicle in support of Armored and Mechanized Infantry Divisions. The third platform of the communications intercept, collection, processing, direction finding, and jamming system and will be deployed to Army Divisions and ACR. Configured in a therefore correctly placed in Budget Activity 5.

1. This project provides for Engineering and Manufacturing Development (E&MD) and testing of Intelligence and Electronic Warfare Common Sensor (IEWCS) Subsystems and Systems leading to Milestone III and product improvement of systems after initial production. The Subsystems are:

targeting. TACJAM-A consists of state-of-the-art modular and scaleable Electronic Support Measures (ESM) and Electronic Countermeasures (ECM) subsystems configured modulations (Low Probability of Intercept (LPI)); freeze the enemy in place by jamming C2; and eliminate enemy counterfire by locating High Value Targets (HVTs) for command and control (C²) nets at critical points in the battle; provide electromagnetic overwatch of the threat C² spectrum inclusive of both conventional and modern a. The TACJAM-A will enhance the Division Commander's ability to outmaneuver and kill the enemy by isolating and suppressing enemy fire control and for use on a variety of air and ground prime movers (tracked, wheeled and heliborne).

b. The CHALS-X provides the targeting capability required to support the Division Commander's requirement to locate and kill the enemy by providing location of high value targets. Airborne systems mixed with ground based systems will be capable of precisely locating enemy weapon systems and units (regardless of whether the enemy uses conventional or modern radios) producing target locations sufficiently accurate for first round fire for effect by organic artillery.

communication (radar) battlefield threat emitters. While operating in a fully automatic mode, it will enhance the Division Commander's ability to outmaneuver and kill the c. The CMES (Common Modules ELINT Subsystem) provides search, intercept, Direction Finding (DF), precision location and analysis of the primary non-

Project DL12

Page 2 of 23 Pages





	RDT&E BUDGET ITEM JUSTIFICATIO	TIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering	DGET ACTIVITY - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604270A Electronic Warfare (EW) Development	PROJECT Development DL12
enemy by specifically identifying locations with targeting accuracy 2. The United States Marine Coy Warfare Support System (MEW/ 3. This project is joint with the I required for the development of	enemy by specifically identifying HVTs such as enemy countermortar, counterbattery ground surveillance radar at critical points in the battle and will provide precise emitter locations with targeting accuracy. 2. The United States Marine Corps is utilizing the same subsystems as the GBCS and configuring them in a Light Armored Vehicle as a part of the Mobile Electronic Warfare Support System (MEWSS) improvement program. 3. This project is joint with the National Security Agency's Defense Cryptologic Program (DCP), Program Element #030885G, which provides a portion of the funds required for the development of the precision location subsystem and system integration of GBCS-L and GBCS-H.	tery ground surveillance radar at critical points in th and configuring them in a Light Armored Vehicle a Program (DCP), Program Element #030885G, whic gration of GBCS-L and GBCS-H.	battle and will provide precise emitter a part of the Mobile Electronic provides a portion of the funds
Acquisition Strategy: GBCS a requirements via software or m requirements will be competed	nd AQF, as well as, their subsystem inor circuit card assembly changes.	s, were developed using open systems architecture that easily accommodates changing threat The GBCS and AQF components will be acquired on a competitive basis and all planned P31	nmodates changing threat re basis and all planned P31
FY 1995 Accomplishments:	hments: Continued TACJAM-A ECM Development Completed and tested CHALS-X LPI software Continued GBCS/AQF Integration effort Improved GBCS/AQF by adding capabilities to intercept, process, and locate pre-formatted communication signals and additional special modulations. Conducted Customer Test (CT) on GBCS-L	, process, and locate pre-formatted communication :	gnals and additional special
• 4000 Total 49600	Built AD/Exjam models in support of demonstration		
FY 1996 Planned Program:	rogram: Conduct Low Rate Initial Production (LRIP) Special In-Process Review (SIPR) on AQF Conduct Milestone III GBCS-L Complete TACJAM-A ESM Development Continues (GBCS/AQF) Integration effort - Field EMD Models of GBCS and AQF Systems to Task Force XXI - Improve GBCS/AQF by including other advanced communication modifications/techniques as well as advanced signal analysis and improved signal sorting parameters. - Begin integration of TACJAM-A ECM into AQF Conduct operation demonstration customer test/development test (OCDT) on GBCS High level software design and Initiate hardware development Conduct IOT&E on GBCS	ocess Review (SIPR) on AQF Force XXI unication modifications/techniques as well as advarent test (OCDT) on GBCS ent	ed signal analysis and improved
Project DL12	Pa	Page 3 of 23 Pages	Exhibit R-2 (PE 0604270A)

	RDT&E BUDGET ITEM JUSTIFICATION	ON SHEET (FICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604270A Elect	отпе Electronic Warfare (EW) Development	PROJECT PROJECT VEIOPMENT DL12
FY 1996 Planned I 750 294 Total 13692	FY 1996 Planned Program: (continued) T50 Contractor maintenance support for Task Force XXI S294 SBIR/STTR reduction not available for execution Revised Economic Assumption not available for execution Total 13692	u		
FY 1997 Planned Program:	rogram: Continues GBCS/AQF improvements to include other advanced digital modulations, and techniques, remote collection techniques finish EMC subsystem integration into AQF and begin integration into GBCS-L and GBCS-H, other product improvements resulting from Task Force XXI Contractor maintenance support for Task Force XXI IOT&E for AQF Conduct Milestone III for AQF	vanced digital modio GBCS-L and GBC	lations, and techniques, remote collecti S-H, other product improvements result	ion techniques finish EMC ting from Task Force XXI
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustments to FY 1995	Summary EY 1995 5 Budget (FY 1996) 50652 ant (FY 1995) 49600 1995	EY 1996 14077 13831	EY 1997 16972	
Appropriated Amount (FY 1996) Adjustments to FY 1996 Adjustments to Budget Year (FY	Appropriated Amount (FY 1996) Adjustments to FY 1996 Adjustments to Budget Year (FY 1997) since	-139	-558	
FY 1996 President's Budget Current President's Budget Submit	s Budget Budget Submit 49600	13692	16414	
Change Summary Explanation: Funding: FY 1996: Re Schedule: Milestone II calibration tables for F	Summary Explanation: Funding: FY 1996: Revised Economic Assumption ion (-139) Schedule: Milestone III for GBCS-L slipped 1 Qtr because technical difficulties experienced during software integration and development of direction finding calibration tables for FY 1996.	ifficulties experienc	ed during software integration and deve	lopment of direction finding
Project DL12	d Landau and the same and the s	Page 4 of 23 Pages	Exhibit	Exhibit R-2 (PE 0604270A)





RDT&E BUDGET ITEM JUS	EM JUS	TIFICA.	TION SE	TIFICATION SHEET (R-2 Exhibit)	-2 Exhit	jį.	DATE	те Магсh 1996	1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PE NU 060	PE NUMBER AND TITLE 0604270A Elect	пге lectronic	Warfare) π⊓Ε Electronic Warfare (EW) Development	lopment	PROJEC DL12	PROJECT DL12
C. Other Program Funding Summary OPA (SSN BZ7326) IEW - Ground Base Common	FY 1995 58404	FY 1996 45470	EY 1997 47091	FY 1998 43249	FY 1999 44826	<u>FY 2000</u> 114626	EY 2001 126463	To Compl Cont'd		Total Cost Cont'd
Sensor (GBCS)(TIARA) OPA (SSN BZ9753) Modifications for GBCS APA (SSN AB3000) EH-60 QuickFix Mods RDTE Budget Activity 7 (DW) DCP PE 030885G, GBCS RDTE Budget Activity 7 (DW) DCP PE 030885G, CHALS-X	0 38864 15722 5013	36872 18949 3038	0 13912 19824 2998	9735 19324 4165	939967 19624 5515	6308 48867 19724 6049	12820 61674 20893 6828	Cont'd Cont'd Cont'd Cont'd		Cont'd Cont'd Cont'd Cont'd
D. Schedule Profile	FY 1995 2 3	4	1 2	FY 1996 2 3	4	FY 1997 2 3	3 4			
Acquisition Milestones Award Contract for GBCS-L LPU X* Award Upgrade for AQF Engine Award Production Contract Milestone III on GBCS	**		*		×		×			
Engineering Milestones Resume/Continue ECM E&MD Complete TACJAM-A ECM E&MD Conduct System Improvements			*		×					
Conduct CT for AQF Conduct IOT&E on GBCS-L Conduct IOT&E on AQF Contract Milestones Field RDT&E Model of GBCS-L		*	×		×		×			
*Denotes completed milestone *Project DL12			Page 5 of 23 Pages	3 Pages			Exhibit R	Exhibit R-2 (PE 0604270A)	(A)	

RDT	&E PROG	RAM ELI	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ROJECT (SOST BI	REAKDO	WN (R-	<u> </u>	DATE March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	gand Manuf	facturing D	evelopmen	ıt	PE NUMBER AND TITLE 0604270A Elect	AND TITLE A Electro	onic Warfa	are (EW) D	ਹ ਸπ∟E Electronic Warfare (EW) Development	PROJECT DL12
A. Project Cost Breakdown Primary Hardware Development Software Development Software Development Systems Engineering Integrated Logistics Support Quality Assurance Reliability, Maintainability & Availability Developmental Test & Evaluation Government Engineering Support Program Management Support Program Management Personnel Omnibus Reprogramming SBIR/STTR Revised Economic Assumption Total B. Budget Acquisition History and Planning Information	akdown evelopment nt Support ability & Availa & Evaluation ring Support nt Support nt Personnel ming ssumption	bility Planning Inf	or mation	EX 1995 16536 12673 2010 4019 1206 2009 815 3740 645 1947 49600	EX 1	EX 1996 3504 2602 421 841 252 420 784 2272 606 1658 0 294 38 13692	EY 1997 4340 3214 528 1055 316 527 983 2751 760 1940 0 0			
Performing Organizations Contractor or Contra Government Metho Performing or Fun	zations Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity EAC	**Project Office EAC	*Total Prior to FY 1995	FY 1995	FY 1996	EY 1997	Budget to Complete	to *Total
Product Development Organizations Sanders/AEL C-CPIF	nt Organization C-CPIF	ss JUN 89	216386	217634	185083	19968	5880	0 0		(4
IBM/Loral ESI	SS-CPFF C-CPAF	JUN 90 SEP 91	52997 165566	52997 165566	45704 89370	1919 14394	300 685	00		-
FMC Loral-IEWCS CECOM	SS-CPFF C-ID/IQ MIPR	SEP 90 NOV 95	13977 29522	13977 29522	10205 0 2418	2172 0 2486	1436 887 1026	0 12939 640	0 13977 29522	0 13813 77 Cont'd 22 Cont'd
Ft Monmouth NJ Loral-AD/EXJAM. Misc	SS-CPIF	MAR 96			0 1301	2000 1337	0 250	210	0 Cont'd	0 2000 t'd Cont'd
Project DL12			: : : : : : : : : : : : : : : : : : :	Pag	Page 6 of 23 Pages	ses		Exh	Exhibit R-3 (PE 0604270A)	(AC





RDT&E	PROG	RAM EL	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ROJECT	COST BE	REAKDO	WN (R-3	(1)	DATE Marc	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	nd Manuf	acturing I	Development	 	PE NUMBER AND TITLE 0604270A Elect	AND TITLE A Electro	nic Warfa	ire (EW) D	этте Electronic Warfare (EW) Development	PRC DL	PROJECT DL12
Contractor or Con Government Met Performing or F Activity Yeh	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity EAC	**Project Office EAC	*Total Prior to EY 1995	FY 1995	FY 1996	FY 1997	Bud	Budget to Complete	*Total Program
Support and Management Organizations Vitro QuesTech FFP MAN In-House Direct Direct	or Organiza o ect ect	tions OCT 95 MAY 95			625	645 3614 250	630 1724	625	50	Cont'd Cont'd	1270 1255 10290 250
Test and Evaluation Organizations In-House MIPR	ganizations PR				1220	815	542	485	5	Cont'd	Cont'd
Government Furnished Property Contract Method/Type Award or Item or Funding Obligation Delivery Product Development Property NOTE: TACJAM-A/CHALS-X/EFVS, Sanders-AEL/IBM-Loral/FMC, respectively, identified above as Product Development Organizations Support and Management Property: N/A Test and Evaluation Property: N/A	led Property Contract Method/Type or Funding Vehicle It Property CHALS-X/EF ement Propert	Award or Obligation <u>Date</u> /S, Sanders-A y: N/A	Delivery <u>Date</u> .EL/IBM-Loral/	FMC, respecti	Total Prior to EX 1995 vely, identified	FY 1995 I above as Pro	EY 1996 oduct Develop	EY 1997 ment Organiza		Budget to Complete	Total Program
Subtotal Funds not available for execution Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	able for exec pment nnagement ation	ution			334081 2577 1220 337878	44276 4509 815 49600	332 10464 2354 542 13692	13789 2140 485 16414		Cont'd 0 0 Cont'd	332 402610 11580 3062 417584
*Total Program includes funding from other sources. **Project Office EAC includes Marine Corps and National Security Agency funds which are not included in the Total Program (Army budget). **Project Office EAC includes Marine Corps and National Security Agency funds which are not included in the Total Program (Army budget).	funding fro cludes Marir	m other sourc	es. National Securit	y Agency fund Pa	nds which are not ii Page 7 of 23 Pages	ot included in	the Total Pro	gram (Army bı Exhii	ny budget). Exhibit R-3 (PE 0604270A)	1270A)	
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673

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION SI	HEET (R	1-2 Exhi	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developmo	evelopm	ent	PE NI 060	PE NUMBER AND TITLE 0604270A Elect	тпе Electronic	PENUMBER AND TITLE 0604270A Electronic Warfare (EW) Development	(EW) De	velopme		PROJECT DL15
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DL15 Army Reprogramming & Analysis Team (ARAT) for Target Sensing Systems (TSS)	3563	2903	3845	4331	3596	0	0		0	18250

A. Mission Description and Budget Item Justification: Project DL15-Army Reprogramming and Analysis Team (ARAT) for Target Sensing Systems (TSS): The signature data for specific identification. Systems supported by this project include but are not limited to: radar warning receiver and jammer sub-systems of attack, scout, applications. The project focuses on advanced information management technologies to: automate the threat recognition process; evaluate the operational impact of threat ARAT project will design, develop, implement, test, equip and institutionalize an Army wide infrastructure capable of rapidly reprogramming electronic combat software utility and SEMA aircraft; aircraft survivability equipment; automated intelligence collection systems; and advanced threat sensors for air defense, artillery and missile embedded in offensive and defensive weapon systems. ATSS are those tactical weapons and sensor systems which rely on embedded, well-defined target or emitter changes on inventoried sensor; develop, test and evaluate software to counter the change; and to develop tactical loading devices for deploying or deployed forces.

major program events such as the test and evaluation of off-the-self and developmental loading devices, the completion of connectivity of a secure Wide Area Network with Acquisition Strategy: The ARAT for TSS project will design, develop, implement, test, equip and institutionalize all Army wide infrastructure capable of reprogramming electronic combat software embedded in offensive and defensive weapon systems. The program requirements for software engineering, development, support equipment engineering acquisition, operational training and test and evaluations support will be acquired by the use of Time and Material contracts. This strategy will further such all reprogramming centers and the development of flagging models for specific electronic combat survivability systems.

FY 1995 Accomplishments:

- Established tested capability to evaluate tactical memory loading devices.
- Conducted technical training on ARAT and threat databases.
- Technically evaluated threat analysis databases and database management tools (i.e. CAEWIS, EDMS)
- Completed connectivity of secure Wide Area Network (WAN) with reprogramming center /activity at Eglin Air Force Base and initiated SIPRNET connectivity.
- Tested and evaluated flagging models for two mission data sets. 250 300 3563
- Developed and maintained threat parameter libraries for three regional operational threat systems.

Project DL15

Page 8 of 23 Pages





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION SH	HEET (R	-2 Exhibit)	DATE March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NI 090	PE NUMBER AND TITLE 0604270A Elect	ਹ ਸਾਮੁ Electronic Warfare (EW) Development	velopment	PROJECT DL15
 FY 1996 Planned Program: 1065 Test and evaluate off-the-shelf and developmental memory loading devices for aviation electronic combat (AEC) equipment. 425 Modify or develop database management tools for AEC equipment. 500 Evaluate hardware/software and develop measurement and signature intelligence (MASINT) on-line database access capabilistic systems. 447 Expand on the application of Electronic Intelligence (ELINT) flagging models for additional Mission Data Sets. 56 SBIR/SSTR not available for execution 26 Revised Economic Assumption not available for execution Total 2903 	memory loading AEC equipment tent and signatu ce (ELINT) flag	g devices for t. re intelligenc ging models	opmental memory loading devices for aviation electronic combat (AEC) equipment. tools for AEC equipment. measurement and signature intelligence (MASINT) on-line database access capability. s. Intelligence (ELINT) flagging models for additional Mission Data Sets. able for execution	quipment. s capability.	
 FY 1997 Planned Program: 1640 Modify or develop database management tools for ADA, IEW, Fire Support and Armor TSS. 1160 Test and evaluate off-the-shelf and developmental loading devices for ADA, IEW, Fire Support and Armor TSS. 380 Initiate study on the feasibility of electronic broadcast reprogramming. 385 Improve or modify ARAT flagging capability for ELINT systems. 280 Enhance MASINT database on-line capability. Total 3845 	ADA, IEW, Fire loading devices ast reprogramm	e Support and for ADA, IE ing.	d Armor TSS. W, Fire Support and Armor TSS.		
1996))	EY 1995 EY 3948 3865 -302	EY 1996 2985	FY 1997 3980		
Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget		2933 -30	-135		
bmit	3563	2903	3845		
Change Summary Explanation: Funding: FY 95 Reduction for higher Army priority (-302) FY 96 Revised economic assumption (-30) FY 97 Reduction for revised inflation rates (-135)					
Project DL15	Page 9 of 23 Pages	23 Pages	Exhibi	Exhibit R-2 (PE 0604270A)	۲)

RDT&E BUDGET ITEM JUSTIFICATI	FICATION SHEET (R-2 Exhibit)	Exhibit)		DATE	March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604270A Elect	ס דודנב Electronic Warfare (EW) Development	ire (EW)	Develo	pment	PROJECT DL15
C. Other Program Funding Summary - N/A						
D. Schedule Profile FY 1995	FY 1996	FY 1	FY 1997	4	FY 1998	∞ r
		1)	•		
Initiate technical evaluation of database X*						
Complete connectivity of secure WAN X*						
with all reprogramming centers/activities.						
Test and evaluate off-the-shelf and	×					
developmental loading devices for						
aviation combat equipment.						
Modify or develop database management	×					
tools for aviation combat equipment.						
Initiate study on the feasibility of	×					
electronic broadcast reprogramming.						
Modify or develop database management		×				
tools for air defense and other non-						
aviation electronic combat systems.						
Test and evaluate off-the-shelf and		×				
developmental loading devices for non-						
aviation electronic combat systems.						
Conduct a demonstration /validation of					×	
broadcast reprogramming.					!	
Expand ARAT communications architecture					×	
(additional ARAT Support Cells).						
Integrate MLV devices for Fire Support and						×
Armor TSS.						
Develop flagging models for specific non-						×
aviation electronic combat systems.						
* Denotes milestone completed						
Project DL15	Page 10 of 23 Pages		Û	chibit R-2	Exhibit R-2 (PE 0604270A)	(A)
	313					





RDT&E PROGRAM ELEMENT/PRO	JECT C	OST BREAK	PROJECT COST BREAKDOWN (R-3)	DATE March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604270A Elect	PE NUMBER AND TITLE 0604270A Electronic Warfare (EW) Development	V) Development	PROJECT DL15
A. Project Cost Breakdown	FY 1995	FY 1996	FY 1997		
Government Engineering Support	340	425	510		
Contract Engineering Support	2412	1552	2010		
Development Support Equipment Acquisition	80	06	575		
Operational Training	100	150	150	-	
PM Support	291	300	300		
Test and Evaluation	250	200	200		
Travel	06	95	100		
Revised economic assumption not available for execution		56			
SBIR/STTR reduction not available for execution		99	0		
Total	3563	2903	3845		
Droject DI 16	I enud	Porto 11 of 33 Portos		Chihit Do And Contain	(
בוטן באון האון האון האון האון האון האון האון ה	1 985 1	1 0/ 23 1 uges		EXIIIDII K-3 (PE UOU42/UA)	Ą

211

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA.	TION S	HEET (R	TIFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	evelopm	ent	PE NI 000	E NUMBER AND TITLE 0604270A Elect	PENUMBER AND TITLE 0604270A Electronic Warfare (EW) Development	: Warfare	(EW) Do	velopme		PROJECT DL16
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DL16 TROJAN Development (TIARA)	0	531	1288	1363	1430	0	0		0	4612

Related Activities (TIARA) program. A key factor in modern warfare is the ability to collect, process, and use information about your adversary while preventing him from collection, processing, analysis and reporting systems. This program tests and evaluates new digital intelligence collection, processing and dissemination technology using digitization. This capability will allow us to process and disseminate real-time intelligence data from various sources; it forms the intelligence needed to issue orders inside obtaining similar information. Project TROJAN is a combined operational and readiness mission system which uses advanced networking technology to provide seamless rapid radio relay, secure communications to include voice, data, facsimile, and electronic reconnaissance support to U.S. forces throughout the world. Project TROJAN operations may be easily tailored to fit military intelligence unit training schedules and surged during specific events to involve every aspect of the tactical intelligence A. Mission Description and Budget Item Justification - Trojan Development: New start for Project TROJAN in FY 96. This project is Tactical Intelligence and the threat decision cycle. To that end, it is imperative the TROJAN system keep pace with Digitization initiatives in order to respond aggressively to the emerging the fielded TROJAN systems, prior to the acquisition of those technologies. The process that will enable us to win the battlefield information war is referred to as intelligence communication threats.

Acquisition Strategy: This project will pursue a competitive utilizing firm fixed price best value selection procedures for the Engineering and Manufacturing Development Contract

FY 1995 Accomplishments: Project Established FY 96.

FY 1996 Planned Program:

- Apply proof -of-principle for video compression/processing technologies to the TROJAN intelligence processing workstation
- Perform proof-of-principle for specific TROJAN applications for non-standard modulations using digital signal processing technologies 123 394
 - Revised economic assumption
- SBIR/STTR reduction

Total

FY 1997 Planned Program:

- Continue proof-of-principle efforts for specific TROJAN applications for non-standard modulations techniques using digital processing technologies
 - Proof-of-principle for video compression/processing technologies 338
 - Develop specialized software for classified pre-processing 478
- Develop enhanced signal processing algorithms for multiple antennas

Project DL16

8/9

Page 12 of 23 Pages





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SUL M	TIFICAT	ION SH	EET (R	-2 Exhil	bit)		DATE	March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	velopme	int	PE NUI 0604	PE NUMBER AND TITLE 0604270A Elect	PE NUMBER AND TITLE 0604270A Electronic Warfare (EW) Development	: Warfare	(EW) Do	evelopme	ent	PROJECT DL16
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995)		FY 1995		EY 1996 545	FY 1997 1333	í				
Adjustment to FT 1993 Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current President's Budget Submit				536 -5 531	-45					
Change Summary Explanation: Funding: FY 96 Economic Assumption (-3) FY 97 Revised inflation rates (-45)										
C. Other Program Funding Summary OPA BA0326	EY 1995 22159	FY 1996 18512	EY 1997 2603	FY 1998 3887	FY 1999 4198	FY 2000 4584	FY 2001 4738		To Compl Cont'd	Total Cost
D. Schedule Profile	FY 1995		FY 2	FY 1996 2 3	4	FY 1997 2 3	3 4		3	4
Acquisition Milestones Contract award for Video Compression/Processing Contract Award for Non- Standard Mod using Digital Contract Award for Spec Software Contract Award for Sig Proc Algorithms Engineering Milestones Prototype Insertion			× × ×			××	~	,		
Project DL16			Page 13 of 23 Pages	3 Pages			Exhib	Exhibit R-2 (PE 0604270A)	0604270⊅	3

RDT&E PROGRAM ELEMENT/PROJEC	ROJECT COST BREAKDOWN (R-3)	JOWN (R-3)	DATE March 1006	1006
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604270A Elect	ΣΤΙΤΙΕ Electronic Warfare (EW) Development	Development	PROJECT DL16
A. Project Cost Breakdown Funds not available for execution Hardware Development Software Development Prototype Insertion Total	EY 1990 14 320 19	FY 1997 730 558 1288		
B. Budget Acquisition History and Planning Information: Not Applicable				
Project DL16	Page 14 of 23 Pages	ĒX	Exhibit R-3 (PE 0604270A)	JA)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION SI	HEET (R	-2 Exhi	bit)		DATE Ma	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Jevelopm	ent	PE NI 060	PE NUMBER AND TITLE 0604270A Elect	ritle lectroni c	: Warfare	(EW) De	E NUMBER AND TITLE 3604270A Electronic Warfare (EW) Development		PROJECT DL18
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DL18 High Value Asset Defense System	5686	7488	9348	0	0	0	0		0	22522

A. Mission Description and Budget Item Justification: High Value Asset Defense System: This is the continuation of the SHORTSTOP program which was initiated as Procurement Urgent (LPU) units (AN/VLQ-9) were procured and fourteen (14) have been upgraded to a multi-band configuration (AN/VLQ-10). Sixteen (16) AN/VLQ-9s approved Apr 94, calls for a system with a lightweight autonomous configuration which shall be quickly and easily deployed via vehicles or manpack. In order to maximize a Quick Reaction Program (QRP) to a CENTCOM Statement of Need (SON) developed in the early part of Operation Desert Shield/Desert Storm. Thirty six (36) Limited other high value assets against proximity fuzed munitions. There will be three (3) configurations of the SHORTSTOP Electronic Protection System: a manpack system, a SHORTSTOP Electronic Protection System will provide a lightweight, fully integrated Radio Frequency Countermeasure system to provide protection for personnel and and ten (10) AN/VLQ-10s are currently deployed in Bosnia in support of Operation Joint Endeavor. The SHORTSTOP Operational Requirements Document (ORD), stand alone system, and a vehicle mounted system. SHORTSTOP will be used by Infantry, Engineering, Armored, Field Artillery, and Intelligence units to enhance tactical utility, it further requires that the set be capable of operation from either a battery or suitable external power source. The current EMD program for the survivability. Initial Operational Capability (IOC) for the lightweight versions is FY 99.

Acquisition Strategy: A contract was awarded on a competitive basis for the development of a lightweight autonomous configuration of the SHORTSTOP Electronic Protection System

FY 1995 Accomplishments:

- 232 Completed testing and took delivery of LPU units upgraded to a multiband configuration
 - 5379 Continued SHORTSTOP EMD for (9) prototypes
 - Conducted PDR and CDR
- Continued development of a lightweight omni-directional antenna
- Continued development of a high power amplifier for the vehicle mounted system
 - 75 Completed threat analysis for development of ECM techniques

Total 56

681

Page 15 of 23 Pages

Project DL18

	IHS NOI.	EET (R-	FICATION SHEET (R-2 Exhibit)	it)	DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development.	PE NUN 0604	PE NUMBER AND TITLE 0604270A Elect	TLE ectronic \	Narfare	ס דותוב Electronic Warfare (EW) Development		PROJECT DL18
 FY 1996 Planned Program: 6725 Complete fabrication of nine (9) prototypes 325 Conduct Contractor Qualification Test on nine (9) prototypes 250 Conduct IPR for approval to procure units for Initial Operational Test and Evaluation (IOTE) 167 SIBR/STTR reduction not available for execution 21 Revised Economic Assumption reduction not available for execution 7488 	e (9) prototypes Initial Operational Tes trion available for execution	it and Evalua	ation (IOTE)				
FY 1997 Planned Program: T578 Award contract modification for additional units to support IOTE T573 Conduct Technical Test and take delivery of nine (9) prototypes Total 9348	oort IOTE ototypes						
B. Project Change Summary Previous President's Budget (FY 1996) 4991 Appropriated Amount (FY 1995) 4886 Adjustment to FY 1995	ZI II		FY 1997 9679				
7 1996) sar (FY 1997) since deet	7	7563 -75	-331				
Current President's Budget Submit		7488	9348				
Change Summary Explanation: Funding: FY 95: Reprogramming to fully fund FY 95 increment of the EMD contract (+800) FY 96: Revised Economic Assumption (-75) FY 97: Revised inflation rates (-331)	the EMD con	tract (+800)					
C. Other Program Funding Summary: EY 1995 FY 1996 Other Procurement, Army 2	FY 1997	FY 1998 12861	FY 1999 12728	FY 2000 13659	FY 2001 13564	To Compl Continue	Total Cost Continue
SSN: VA8000 SHUKISIUP Project DL18	Page 16 of 23 Pages	3 Pages			Exhibit R-2 (Exhibit R-2 (PE 0604270A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		M JUSTII	FICATIO	N SHEET (R-2 E	xhibi	t)	DATE	March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	og De	velopmen	•	PE NUMBER AND TITLE 0604270A Elect	этте Electr	onic V	Varfare (E∖	PE NUMBER AND TITLE OGO Warfare (EW) Development	nt	PROJECT DL18
D. Schedule Profile	_	FY 1995	1	FY 1996	-	-	FY 1997	4		
Conduct PDR Conduct CDR Begin fabrication of nine (9) prototypes Conduct IPR to procure IOTE units Complete fabrication of nine (9) prototypes Conduct contractor qualification testing Award contract modification to procure IOTE units Deliver nine (9) EMD prototypes Conduct Technical Test of nine (9) prototypes Complete fabrication and deliver IOTE units Complete fabrication and deliver ADENOTE UNITE *Denotes completed milestone	- *	· · · · · · · · · · · · · · · · · · ·	- •		* ×× ×	- × ××	n N	× ×		
Project DL18			Pag	Page 17 of 23 Pages				Exhibit R-2 (PE 0604270A))604270A	3

RDT&E PROGRAM ELEMENT/PROJE	ROJECT COST BREAKDOWN (R-3)	OWN (R-3)	DATE March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604270A Elect	אוזונב Electronic Warfare (EW) Development	evelopment	PROJECT DL18
A. Project Cost Breakdown	FY 1995 FY 1996	FY 1997		
Primary Hardware Development	4841 5413	6340		
Development Test and Evaluation	213 825			
Operational Test and Evaluation		1497		
Government Engineering Support	339 501	792		
Program Management Support	293 561	719		
Revised economic assumption not available for execution	21			
SBIR/STTR reduction not available for execution	167			
Total	5686 7488	9348		
B. Budget Acquisition History and Planning Information: Not Applicable	υ			
Project DL18	Page 18 of 23 Pages	Exh	Exhibit R-3 (PE 0604270A)	A)



RDT&E BUDGET ITEM JUS	EM JUS	TIFICAT	ION SE	TIFICATION SHEET (R-2 Exhibit)	-2 Exhil	bit)		DATE Ma	March 1996	(0
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PE NC 0 0 0	PE NUMBER AND TITLE 0604270A Elect	пте lectronic	: Warfare	(EW) De	E NUMBER AND TITLE 0604270A Electronic Warfare (EW) Development		PROJECT D665
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D665 Aircraft Survivability Equipment Development	32076	38828	38579	34606	34542	7988	6523		Continuing	Continuing Continuing

Aircraft (SEMA), attack/scout, and assault/cargo mission requirements. Equipment developed will increase combat effectiveness and potential for mission accomplishment documents, test, and type classification for production and fielding of ASE systems to address infrared, radar, laser, and optical/electro-optical directed air defense threats and threat. This program has joint service applications that are coordinated through the Joint Technical Coordinating Group for Aircraft Survivability (JTCG/AS), as well by reducing or eliminating the ability of threat air defense systems to detect, hit, damage, or destroy Army aircraft. Developments respond to the approved requirements infrared missile seekers; and laser directed weapon systems. Continual adjustments are made to this program to meet the changing and evolutionary nature of technology Projects in development include new or upgraded systems to counter monopulse, millimeter wave, frequency agile, pulse doppler, and continuous wave radars; passive A. Mission Description and Budget Item Justification: Aircraft Survivability Equipment Development: Provides for the development and system integration of as NATO applications coordinated through OSD. This project also provides the technical base for electronic warfare equipment for Comanche and Special Operations Aircraft Survivability Equipment (ASE) to achieve survivability, reduce vulnerability, and enhance combat effectiveness required to fulfill Special Electronic Mission

Acquisition Strategy: Project is comprised of multiple programs which have been competitively awarded

FY 1995 Accomplishments:

Initiated Engineering and Manufacturing Development (EMD) of Advanced Threat Infrared Countermeasure (ATIRCM) / Common Missile Warning Continued development of Advanced Visual Electro-Optical Signature Suppression and Analysis (AVESSA) (formerly Passive IR features) for Completed Demonstration/Validation and initiated EMD of the Advanced Infrared Countermeasures Munitions (AIRCMM) (formerly IR Completed EMD of the AN/APR-39A(XE-2) Radar Signal Detecting Set (RSDS) reduction of aircraft signature in all IR bands relative to heat seeking missiles Continued EMD of the Advanced Threat Radar Jammer (ATRJ) Continued in-house and program management administration Continued integration efforts of ASE systems System (CMWS) Expendables) 3210 2723 1534 32076 15577

ect D665

Page 19 of 23 Pages

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (F		DATE March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604270A Elect	Э ТІТЕ Electronic Warfare (EW) Development	elopment	PROJECT D665
 FY 1996 Planned Program: 15026 Continue EMD of ATIRCM/CMWS 3254 Continue EMD of the AIRCMM 14833 Continue EMD of the ATRJ 250 Completed integration efforts of ASE systems 3441 Continue in-house and program management administration 111 Revised Economic Assumptions not available for execution 804 SBIR/STTR Total 38828 	.			
FY 1997 Planned Program: 17268 Continue EMD of ATIRCM/CMWS 2530 Continue EMD of the AIRCMM 14053 Continue EMD of the ATRJ 1302 Continue development of AVESSA 3426 Continue in-house and program management administration Total 38579	-			
B. Project Change SummaryFY 1995Previous President's Budget (FY 1996)32323Appropriated Amount (FY 1995)31708Adjustments to FY 1995368	EY 1996 39917	FY 1997 39845		
'Y 1996) ?ear (FY 1997) since FY 1996	39219 -391	-1266		-
Current President's Budget Submit	38828	38579		
Change Summary Explanation: Funding: FY 1995: funds (+368) were reprogrammed for higher priority requirements FY 1996: (-391) reflects revised economic assumptions FY 1997: (-1266) reflects revised economic assumptions	ity requirements			
Project D665 Pag	Page 20 of 23 Pages	Exhibit F	Exhibit R-2 (PE 0604270A)	F





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ITEM	JUSTI	FICAT	HS NOI.	EET (R	-2 Exhil) E		DATE Marc	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	g Devel	opmen	.	PE NU 0 60	PE NUMBER AND TITLE 0604270A Elect	пте lectronic	Warfare	(EW) De	этте Electronic Warfare (EW) Development	PROJEC D665	PROJECT D665
C. Other Program Funding Summary	<u> </u>	EV 1005	1006	FW 1007	9001 781	0001 /81	0000 23.1	1000 231		To	Total
APA, BA 4 AZ3504 ASE* APA, BA 2 AA0720 ASE Modifications*	1		704	0 127	10621 2363	41567 2937	57099 2808	56658 56658 9288		Cont	Cont
*Represents only part of the funding in these SSNs.	Ns.						٠				
D. Schedule Profile	F.	FY 1995	4	- F.	FY 1996	4	FY 1997	L 4			
Continue dev of AVESSA Continue EMD contract of ATRJ Awarded EMD contract of ATIRCM/CMWS Completed DEM/VAL of AIRCMM Awarded EMD contract of AIRCMM Continue EMD of ATIRCM/CMWS Continue EMD of ATIRCM/CMWS Continue EMD contract of ATRJ Continue EMD of ATIRCM/CMWS Continue EMD contract of ATRJ	××	*	* *	\times			imes imes imes imes				
Project D665				Page 21 of 23 Pages	3 Pages			Exhib	Exhibit R-2 (PE 0604270A)	270A)	

RDT	&E PROG	RAM ELI	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	OJECT (SOST BI	REAKDC	WN (R-	3)	DATE Marc	March 1996	:
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	and Manuf	acturing E	Development		PE NUMBER AND TITLE 0604270A Elect	AND TITLE A Electro	onic War	fare (EW) [TITLE Electronic Warfare (EW) Development		РRОЈЕСТ D665
A. Project Cost Breakdown R&D Contracts Test and Evaluation Government Engineering Support Program Management Engineering Support SBIR/STTR/Economic Assumptions	akdown ring Support t Engineering S ic Assumptions	upport		EY 1995 23040 853 1099 7084		EY 1996 31176 432 1177 5128 915 38828	EY 1997 30342 324 1124 6789				
B. Budget Acquisition History and Planning Information: Contractor or Contract Government Method/Type Award or Performing Project Total Performing or Funding Obligation Activity Office Prior to Activity Vehicle Date EAC FY 1995 FY 1996 FY 1997 Complete Product Development Organizations: Note: Miscellaneous includes funding to various activities (ATCOM, St. Louis, MO/CECOM, Fort Monmouth, NJ) for ASE	on History and Contract Method/Type or Funding Vehicle nt Organization	Planning Inf Award or Obligation Date ns: Note: Mis	formation: Performing Activity EAC	Project Office <u>EAC</u> les funding to	Total Prior to FY 1995 various activ	FY 1995 ities (ATCON	FY 1996 M, St. Louis,	EY 1997 MO/CECOM,	Buc <u>Cor</u> Fort Monmouth, 1	Budget to <u>Complete</u> th, NJ) for ASI	Total Program E
programs Thiokol	C/CPIF	Sep 95	5010	5010	0	1000	2300	1710		0	5010
(AIRCMM) ITT Corp (ATRJ) C/CPAF Jul 94 54376 4612 14838 14300 14200 6426 5437 Sanders(ATIRCM) C/CPAF Sep 95 38722 38722 0 2282 12414 13827 10199 3872 Misc Contracts Contracts Cont Cont Cont Cont Cont Misc MIPR I177 1124 Cont Cont Cont Support and Management Organizations: Note: Miscellaneous includes funding to various activities (ATCOM, St. Louis, MO/CECOM, Fort Monmouth, NJ) for ASE	C/CPAF C/CPAF Contracts MIPR	Jul 94 Sep 95 zations: Note	54376 38722 e: Miscellaneous i	54376 38722 includes fundi	4612 0 2060 ing to various	14838 2282 4920 1099 s activities (A'	14300 12414 2162 1177 TCOM, St. I	14200 13827 605 1124 Louis, MO/CEC	OOM, Fort Monme	6426 10199 Cont Cont (outh, NJ) fe	54376 38722 Cont Cont or ASE
programs Support Contracts Misc SBIR/STTR/	C/FFP MIPR	Nov 94				562 6522	545 4583 915	640 6149		Cont	Cont Cont Cont
Assumptions Assumptions Test and Evaluation Organizations: Note: Miscellaneous includes funding to various activities for ASE programs. Misc Misc	n Organizations MIPR	s: Note: Misc	ellaneous include:	s funding to v	arious activit	ies for ASE p 853	orograms. 432	324		Cont	Cont
Project D665				Pag	Page 22 of 23 Pages	ses		Ext	Exhibit R-3 (PE 0604270A)	4270A)	





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BRI	EAKDO	WN (R-3		DATE March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development.	PE NUMBER AND TITLE 0604270A Elect	ND TITLE Electro	nic Warfa	ıre (EW) D	PE NUMBER AND TITLE 0604270A Electronic Warfare (EW) Development	PROJECT D665
Government Furnished Property: None	:					
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	Total Prior to FY 1995 6672 6672	EX 1995 24139 7084 853 32076	EX 1996 32353 6043 432 38828	EX 1997 31466 6789 324 38579	Budget to Complete Cont Cont Cont	get to Total tplete Program Cont Cont Cont Cont Cont
		•				
Project D665	Page 23 of 23 Pages	S		Exhi	Exhibit R-3 (PE 0604270A)	70A)
	689					

RDT&E BUDGET ITEM JUST	EM JUS		HS NOI.	IEET (R	FICATION SHEET (R-2 EXHIBIT)	ВІТ)		DATE M	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Developm	ent	PE NI 060 (TS	PE NUMBER AND TITLE 0604315A Tri-S (TSSAM)	E NUMBER AND TITLE 3604315A Tri-Service Standoff Attack Missile [TSSAM]	e Stando	ff Attack	Missile	ā ப	PROJECT DF08
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DF08 Tri-Service Standoff Attack Missile	1156	0	0	0	0	0	0		0	820809

for the development of a large cruise missile to meet the requirements of all three services. The program objective was to develop a family of affordable, highly survivable, A. Mission Description and Budget Item Justification: TSSAM was joint program with Air Force as the executive service. The program was congressionally directed conventional, stealthy cruise missiles which would satisfy tri-service requirements to effectively engage a variety of high-value land and sea targets.

with limited funding, the Army (with OSD concurrence) has begun an orderly termination at minimum expense. The U.S. Air Force Joint Systems Program Office issued a The FY 94 Authorization and Appropriation Congressional Language directed the Army to terminate its participation in the TSSAM program. Based on this direction, and partial Termination for Convenience to the integration contractor, Loral Vought Systems Corporation, Dallas, TX and support contractor CAS, Inc., Huntsville, AL. The Army Acquisition Executive approved the Army TSSAM termination plan on 13 May 94.

This project supported research efforts in engineering and manufacturing development phases of the acquisition strategy and was, therefore, correctly placed in budget activity 5.

Acquisition Strategy: Not applicable. Program in process of being terminated.

FY 1995 Accomplishments:

Completion of Termination Activities 1156 1156

FY 1996 Planned Program: No planned program.

FY 1997 Planned Program: No planned program.

Project DF08

Page I of 2 Pages

Exhibit R-2 (PE 0604315A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION SHEE	DATE	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER / 0604315/ (TSSAM)	PE NUMBER AND TITLE 0604315A Tri-Service Standoff Attack Missile (TSSAM)	PROJECT DF08
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Value (FY 1995) Adjustments to FY 1995 Appropriated Value Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current Budget Estimate Submission	EY 1995 FY 1996 19421 0 19035 -17879	6 FY 1997 0 0	
Change Summary Explanation: Funding: FY 1995: Emergency Supplemental Appropriations Act (880); Omnibus reprogramming (-4.000); below threshold reprogramming (-3.999); rescission in FY 1996 Defense Appropriations Bill (-9.000).	ct (880); Omnibus	s reprogramming (-4.000); below threshold reprogrammir	ng (-3.999); rescission
C. Other Program Funding Summary: Not Applicable.			
Project DF08	Page 2 of 2 Pages	ages Exhibit R-2 (PE 0604315A)	0604315A)

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA	ION S	HEET (R	FIFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	6
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PE NI 060	PE NUMBER AND TITLE 0604321A All S	TITLE VII Source	PE NUMBER AND TITLE 0604321A All Source Analysis System (TIARA)	s Systen	n (TIARA		
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	41059	51168	36200	24181	26432	22808	31827		Continuing	Continuing
DB19 ASAS Evolutionary Acquisition	38338	49716	32433	21666	23918	22808	31827		Continuing	Continuing
D2FT ASAS Operational Test	2721	1452	3767	2515	2514	0	0		0	12969

Evolutionary Acquisition (EA) system and its operational testing. ASAS is the automated support system for the intelligence and electronic warfare (IEW) functional area of and target development in battalions, brigades, armored cavalry regiments (ACR), separate brigades, divisions, corps, and echelons above corps (EAC). The projects in this Mission Description and Budget Item Justification: This program element, All Source Analysis System, funds development of the All Source Analysis System (ASAS) program element support research efforts in the engineering and manufacturing development phases of the acquisition strategy and are therefore correctly placed in budget the Army Battle Command System (ABCS). It is a tactically deployable Automated Data Processing (ADP) system designed to support management of IEW operations activity 5.

Page 1 of 9 Pages

692

Exhibit R-2 (PE 0604321A)





RDT&E BUDGET ITEM JUST	EM JUS	TIFICA.	TION SI	TIFICATION SHEET (R-2 Exhibit)	-2 Exhil	bit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PE NI 060	PE NUMBER AND TITLE 0604321A All Source Analysis System (TIARA)	TITLE VII Source	e Analysi	is Systen	n (TIARA		PROJECT DB19
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DB19 ASAS Evolutionary Acquisition	38338	49716	32433	21666	23918	22808	31827		Continuing	Continuing Continuing

source target and situation analysis, single and multi-source processing, intelligence reporting, electronic warfare, and operational security as well as automation support to requires a flexible and modular intelligence and targeting system that will provide tactical commanders a common view of the battlefield and a means for gaining a timely and intelligence processing system. The ASAS system provides automated support to the combat commander in the areas of intelligence and collection management, alland comprehensive understanding of enemy force deployments, capabilities, and potential courses of action. The ASAS is a ground based, mobile, command and control intelligence fusion project, the ASAS Block II Evolutionary Acquisition, within the Intelligence Fusion Project Office. The successful execution of military operations A. Mission Description and Justification: Project DB19 - ASAS Evolutionary Acquisition: This project funds the development of the Army's only tactical battlefield commander's command and control.

Block I System including conversion to the Army Tactical Command and Control System (ATCCS) Common Hardware/Software Open architecture and the OSD directed control functionality, jump and degraded mode operations, enhanced communications, and improved reliability and supportability. ASAS Block II strategy maximizes the Common Operating Environment (COE) and Modernized Integrated Database (MIDB). Additional software capabilities include enhanced intelligence and command and opportunities. This strategy provides early user capabilities and streamlines acquisition. Building upon experience and feedback gained from the fielded ASAS and other use of Government Furnished Equipment (GFE), government and commercial Non-Developmental Item (NDI) software, reuse of proven Office of Secretary of Defense Acquisition Strategy: The ASAS Block II development program will build upon and expand the capabilities and functionalities developed and produced in the ASAS (OSD) and ATCCS Command, Control, Communications and Intelligence (C3I) software, multiple prototype deliveries and continuous user test and evaluation tactical fusion prototypes, ASAS Block II will undergo a Defense Acquisition (DAB) Milestone III review in FY 99.

In March 1994, the Army was directed to accelerate fielding the ASAS capability across the force (including all Military Intelligence units and National Guard brigades) relatively low cost NDI equipment; and tailoring the existing training and maintenance support structure. The Army's intent is to keep fielded ASAS technology as current as possible by initiating value engineering/technology insertion to the fielded ASAS and by packaging some of the ASAS Block II software drops into capability packages Army active and reserve armored cavalry regiments, separate brigades, divisions, corps, and echelons-above corps. Brigades and Battalions will receive Collateral Remote by FY 99. This ASAS-Extended program accomplishes this through; reuse of proven Block I software; leveraging the traditional acquisition successes of Block I; use of and inserting them into the fielded ASAS. These capability packages will be used with all of the fielded ASAS systems and modules. ASAS Block II will be fielded to

Project DB19

Page 2 of 9 Pages

Exhibit R-2 (PE 0604321A)

	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996	966
BUDGET ACTIVITY 5 - Engineering	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development 060432	PE NUMBER AND TITLE 0604321A All Source Analysis System (TIARA)	ı (TIARA)	PROJECT DB19
FY 1995 Accomplishments:	hments: Continued Block II Engineering & Manufacturing Development (EMD) Provided GFE to Block II Contractor Conducted Development/Operational/Assessment Testing			
FY 1996 Planned Program: • 43281 Continu	rogram: Continue ASAS Block II Evolutionary E&MD Capability Packages -Develop/integrate ASAS Common Applications -Develop and integrate Joint Collection Management Tools -Incorporate DOD directed Common Operating Environment (COE) -Add MIDB Capability -Develor Remote Workstation-Collateral for Task Force XXI	(COE)		
2343 • 2872 • 1079 • 141 Total 49716	Conduct Procure a SBIR/ST Revised I			
FY 1997 Planned Program: • 28861 Continuent of the continuent of	Frogram: Continue ASAS Block II Evolutionary Acquisition E&MD Capability Packages -Implement COE-Compliant System Services and Common Applications -Complete Unified Database Schema -Develop Operational Diagnostic Capability -Complete MIDB Effort -Rehost and improve All Source intel functionality from BLkI to Blk II Conduct Development/Operational/Assessment Testing	ackages plications to Blk II		
Project DB19	Page 3 of 9 Pages		Exhibit R-2 (PE 0604321A)	(Y
	769			





BUDGET ACTIVITY ENUMBER AND TITLE FENUMBER AND TITLE G604321A All Source Analysis System (TIARA) B. Project Change Summary EY 1995 EY 1996 EY 1997 Previous President's Budget (FY 96) 39094 51205 35438 Appropriated Amount (FY 95) 38338 50218 50218 Adjustments to FY 96 44djustments to FY 96 -502 -3005 FY 96 President's Budget Current President's Budget Current President's Budget Submit 38338 49716 32433 Change Summary Explanation: FY 96: (-502) the portion of this program that has been proposed for rescission. 32433 FY 97: (-1910) moved to OPTEC Project D2FT to fund test and evaluation of ASAS and (-1095) reduced due to revised inflation rates.	PE NUMBER AND TITLE 0604321A All Source Analysis System (TIARA) FY 1996 FY 1997 51205 35438 50218 -3005 49716 32433 1 for rescission. evaluation of ASAS and (-1095) reduced due to revised inflation rate 1997 FY 1998 FY 1999 FY 2000 2297 8653 26156 61092 69864 0 0 1969 5862	EV 1997 35438 32433 32433 EY 1999 FY 1999 EY 1999 FY 1999 0	Analysis reduced due FY 2000 F	System (TI/	, O	DB19
B. Project Change Summary Previous President's Budget (FY 96) Adjustments to FY 95 Adjustments to FY 96 Adjustments to Budget Year (FY 97) since FY 96 President's Budget Current President's Budget Submit Change Summary Explanation: Funding: FY 96: (-502) the portion of this program that has been proposed for resciss FY 97: (-1910) moved to OPTEC Project DZFT to fund test and evaluation	FY 1996 51205 50218 -502 49716 for rescission. evaluation of ASAS 297 FY 1998 297 FY 1998 297 0 0	35438 -3005 -3005 32433 and (-1095) re EY 1999 50156	duced due 7.7000 E 61092	to revised inflat	, O	
Adjustments to F1 93 Appropriated Amount (FY 96) Adjustments to FY 96 Adjustments to Budget Year (FY 97) since FY 96 President's Budget Current President's Budget Submit Change Summary Explanation: Funding: FY 96: (-502) the portion of this program that has been proposed for resciss FY 97: (-1910) moved to OPTEC Project D2FT to fund test and evaluation	50218 -502 49716 for rescission. evaluation of ASAS 297 FY 1998 297 8653	-3005 32433 and (-1095) re EY 1999 E3 26156	duced due 7.7000 E 61092	to revised inflat	Ö	
Change Summary Explanation: Funding: FY 96: (-502) the portion of this program that has been proposed for resciss FY 97: (-1910) moved to OPTEC Project D2FT to fund test and evaluation	for rescission. evaluation of ASAS 997 FY 1998 297 8653 0 0	and (-1095) re EY 1999 E3 26156	duced due // 2000 E	to revised inflat	, O	
C. Other Program Funding Summary		Д		1000	Con	
FY 1995 FY 1996 FY 1997 23378 9577 12297 0 100 0 999			1969	5862 5862	ٽ ٽ	To Total ompl Cost Cont Cont
D. Schedule Profile FY 1995 FY 1995 1 2 3 4 1 2 Phase 2 (Remote Workstation Functionality) Prototype Delivery	Y 1996 3 X	1	FY 1997 2 3	4		
Project DB19	4 of 9 Pages			Exhibit R-2 (Exhibit R-2 (PE 0604321A)	()

BUDGET ACTIVITY 5 - Engineering and Manufacturing Development A. Project Cost Breakdown Systems Development SETA Project Management Matrix Management	welopment	EX 1995 30985 1786 1126 1326 3115 38338		11 A AII Sou 11996 41125 2002 1617 2100 2872 49716	All Source Analysis EY 1997 5 27164 1583 7 1752 0 1934 0 0 5 32433	lysis Syster	System (TIARA)		рвојест DB19
A. Project Cost Breakdown Systems Development SETA Project Management Matrix Management	mation: Follow	EY 1995 30985 1786 1126 1326 3115 38338		996 125 2002 617 1100 8872 7716	EY 1997 27164 1583 1752 1934 0 32433				
A. Project Cost Breakdown Systems Development SETA Project Management Matrix Management	mation: Follow	EX 1995 30985 1786 1126 1326 3115 38338 ving for Block		996 125 002 617 1100 872	EY 1997 27164 1583 1752 1934 0 32433				
SETA Project Management Matrix Management	mation: Follow	1786 1126 1326 3115 38338 ving for Block		002 617 1100 1872 7716	1583 1752 1934 0 32433				
Project Management Matrix Management	mation: Follow	1126 1326 3115 38338 ing for Block		617 100 872 716	1752 1934 0 32433				
Matrix Management	mation: Follow	1326 3115 38338 /ing for Block		.100 .872 .716	1934 0 32433				
Test	mation: Follow	38338		716	32433				
Total	mation: Follow	ing for Block	II ASAS						
B. Budget Acquisition History and Planning Information: Following for Block II ASAS									
Organiza									
Contractor or Contract Government Method/Type Award or Po	Performing	Project	Total						
or Funding Obligation	Activity	Office	Prior to					Budget to	Total
Activity Vehicle Date	EAC	EAC	FY 1995	FY 1995	FY 1996	FY 1997		Complete	Program
ent Organizations	,								
Lockheed Martin CPAF Oct 93	107990	107990	13894	23407	28525	20164		22000	107990
MITRE MIPR				1500	2700	1200		CONT	CONT
Tobyhanna Depot MIPR				2391	6700	4100		CONT	CONT
Sytex PWD				2100	2100	1700		CONT	CONT
Support and Management Organizations									
SYTEX (SETA)				1786	2002	1583		CONT	CONT
ASAS In-House			0	1126	1617	1752		CONT	CONT
Matrix CECOM				1326	2100	1934		CONT	CONT
Test and Evaluation Organizations			,						
*LMA		!	0	3115				CONT	3115
*Beginning in FY 97 all test effort funding is included in the LMA Contract (Product Development)	d in the LMA Co	ontract (Produ	ct Developm	ient)					
Project DB19		Page	Page 5 of 9 Pages	Si		Exhit	Exhibit R-3 (PE 0604321A)	0604321A)	





RDT&E PROG	RAM EL	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BI	REAKDO	WN (R-	<u></u>	DATE Mare	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	facturing	Development	PE NUMBER AND TITLE 0604321A All S	AND TITLE A AII SO	urce Anal	PE NUMBER AND TITLE 0604321A All Source Analysis System (TIARA)	m (TIARA)	A O	PROJECT DB19
Government Furnished Property Contract Method/Type Item or Funding Description Vehicle	Award or Obligation <u>Date</u>	Delivery <u>Date</u>	Total Prior to EY 1995	EY 1995	EY 1996	FY 1997	Bud	Budget to Complete	Total Program
CHS II MIPR N/A Support and Management Property: None Test and Evaluation Property Tact and CHS II	N/A y: None	6 months from award	0 0	1587	1100	0 0		0 0	2687
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project			Total Prior to EY 1995 13894 13894	FY 1995 30985 4238 3115 38338	EX 1996 41125 5719 2872 49716	EY 1997 27164 5269 32433	Bud Con	Budget to Complete CONT CONT CONT CONT	Total CONT CONT CONT CONT CONT
Project DB19		Pa	Page 6 of 9 Pages	ş		Exhib	Exhibit R-3 (PE 0604321A)	1321A)	

RDT&E BUDGET ITEM JUST	EM JUS		TION SE	HEET (R	IFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	evelopm	ent	PE NI 0 0 0	PE NUMBER AND TITLE 0604321A AII S	E NUMBER AND TITLE D604321A All Source Analysis System (TIARA)	Analysi	s Systen	ר (TIARA		PROJECT D2FT
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D2FT ASAS Operational Test	2721	1452	3767	2515	2514	0	0		0	12969

encountered in actual combat with typical user troops trained to employ the system. As necessary OPTEC provides Army leadership with an evaluation of effectiveness and suitability of the system. Project D2FT is restructured from PE 0605712A, TECOM provides the Army leadership with testing of the ASAS. Support of Testing, and is not evaluation of the ASAS by the Operational Test and Evaluation Command (OPTEC). ASAS is an Acquisition Category (ACAT) I system with several dedicated iterations A. Mission Description and Justification: Project D2FT - ASAS Test and Evaluation: This project finances the direct costs of planning and conducting testing and of Test and Evaluation (Technical and Operational) between FY 95 and FY 99. Testing/evaluations are conducted under conditions, as close as possible, to those

Acquisition Strategy: Not applicable, see B19 above.

FY 1995 Accomplishments:

- 2474 Planned and prepared for ASAS Block II operational testing
- 247 Planned and prepared for ASAS Block II operational testing evaluation

Total 2721

FY 1996 Planned Program:

- 1416 Conduct ASAS Block II Technical and Operational Testing and Evaluation
 - 32 SBIR/STTR
- 4 Revised Economic Assumptions not available for execution

otal 1452

FY 1997 Planned Program:

3767 Conduct ASAS Block II Technical and Operational Testing and Evaluation

al 37

Project D2FT

Page 7 of 9 Pages

Exhibit R-2 (PE 0604321A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604321A AII S	ਮਸਸ All Source Analysis System (TIARA)	(TIARA) D2FT
B. Project Change Summary Previous President's Budget (FY 96) Appropriated Amount (FY 95) Adjustments to FY 95 Adjustments to FY 96 Adjustments to Budget Year (FY 97) since FY 96 President's Budget Current President's Budget	EX 1996 1493 1467 -15	FY 1997 1990 +1777	
orogrammed for higher priority effort. Sortion of this program that has been noved from DB19 to fully fund opera	for rescission essment and (-13'	3) reduced due to revised inflation rates.	
C. Other Program Funding Summary: Not Applicable			
D. Schedule Profile 1 2 3 4 1 ASAS Testing/Evaluation X*	FY 1996 2 3	FY 1997 4 1 2 3 4 X X	
	c c		
Project D2FT	rage 8 of 9 rages 600	Exhibit	Exhibit K-2 (PE 0604321A)

RDT&E PROGRAM ELEMENT/PROJ	ECT C	ROJECT COST BREAKDOWN (R-3)	EAKDO	WN (R-3	<u> </u>	DATE March	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ŭ.	PE NUMBER AND TITLE 0604321A AII S	ND TITLE	ırce Analy	/sis Syste	o π⊓∟E All Source Analysis System (TIARA)	PROJECT D2FT	ЕСТ Т
A. Project Cost Breakdown Operational Test, Evaluation, Assessment Total	EY 1995 2721 2721	EY 1996 1452 1452	1 <u>996</u> 1452 1452	EX 1997 3767 3767				
B. Budget Acquisition History and Planning Information								
Performing Organizations Contractor or Contract Government Method/Type Award or Performing Pr Performing or Funding Obligation Activity C Activity Vehicle Date EAC Product Develonment Organizations: None	Project Office <u>EAC</u>	Total Prior to EX 1995	FY 1995	FY 1996	FY 1997	Budget to Complete		Total Program
Support and Management Organizations: None Test and Evaluation Organizations OPTEC			2721	1452	3767	σ,	5029	12969
Government Furnished Property: None								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project			2721	1452 1452	3767 3767	4, 41	5029 5029	12969
Project D2FT	Page	Page 9 of 9 Pages			Exhi	Exhibit R-3 (PE 0604321A)	321A)	





RDT&E BUDGET ITEM JUST	EM JUS	TIFICA.	TION SI	IEET (R	TIFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	evelopm	ent	PE NI 00	PE NUMBER AND TITLE 0604325A Follo	E NUMBER AND TITLE 3604325A FOIIOW-On TO TOW	To TOW	,		1	экојест DE18
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DE18 Follow-On To TOW	0	896	5596	15397	49387	54255	48129		Continuing	Continuing Continuing

mounted, crew served Heavy Anti-tank Missile System which will replace/supplement the TOW missile family. It will be integrated onto and fired from the High Mobility Qualitative Materiel Requirements (QMR) and will perform under day/night adverse weather conditions and obscurants. The FOTT will be countermeasures hardened and Acquisition Sub-system (IBAS) platforms. The FOTT will be capable of operating out to the maximum range required in the Heavy Anti-armor Weapon (HAW) Systems will increase crew survivability. Projects within this element support research efforts in the engineering and manufacturing development phases of the acquisition strategy A. Mission Description and Budget Item Justification: Provides for Engineering and Manufacturing Development (EMD) for Follow-On To TOW (FOTT), a vehicle Multi-purpose Wheeled Vehicle (HMMWV) with Improved Target Acquisition System (ITAS) and on the Bradley Fighting Vehicle (BFV) with Improved Bradley and are therefore correctly placed in budget activity 5.

Acquisition Strategy: The FOTT program will provide a systems approach by leveraging existing missile technologies. This next-generation missile will be compatible with both current and emerging TOW missile platforms. FY 1997 activities include a pre-EMD risk reduction effort through hardware performance demonstrations by potential FOTT program participants. The EMD contract will be competitively awarded. EMD activities will include both missile design and platform integration.

FY 1995 Accomplishments: Project not funded in FY 95.

FY 1996 Planned Program:

944 EMD Preparation.

Initiate Program Milestone II Documentation

Prepare Request for Proposal for missile and platform integration

Conduct system and technical analysis

- 22 SBIR/STTR
- 2 Revised Economic Assumption not available for execution
- <u>6</u>

701

Page 1 of 3 Pages

Project DE18

Exhibit R-2 (PE 0604325A)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUSTIFIC,	ATION SI	HEET (R	-2 Exhit	Ě		DATE March 1996	96
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developmen	evelopment	PE NI 060	PE NUMBER AND TITLE 0604325A Follo	TITLE Follow-On To TOW	To TOW			PROJECT DE18
 FY 1997 Planned Program: 1296 EMD Preparation. Complete development of Program Milestone II Documentation Conduct Source Selection. 4300 PRE-EMD Risk Reduction. Provide Range Support for Potential FOTT Offerors' Demonstration of missile and platform integration concepts prior to source selection and EMD start. Provide Range Instrumentation Suite, Range Facility Support, Range Target Sets, Range Test Management, Execution and Data reduction, TO Platform Shipment, Integration and Refurbishment Total 5596 	ogram Milestone II D otential FOTT Offeror on Suite, Range Facili on and Refurbishment	ocumentation rs' Demonstrat ty Support, Ra	ion of missile	; and platforr	n integration	n concepts p	ie II Documentation Offerors' Demonstration of missile and platform integration concepts prior to source selection and Facility Support, Range Target Sets, Range Test Management, Execution and Data reduction, TOW hment	and , TOW
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1996) Adjustments to FY 1996 Appropriated Value Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current President's Budget	EY 1995	·	FY 1996 995 978 -10	EY 1997 1493 +4103 5596				
Change Summary Explanation: Funding: FY 1996 - Revised Economic Assumption (-10). Funding: FY 1996 - Revised Economic Assumption (-10). FY 1997 - PRE-EMD Risk Reduction. Provide support for potential FOTT offerors' to demonstrate missile and platform integration concepts prior to source selection and EMD start (+4103).	umption (-10). tion. Provide support AD start (+4103).	: for potential F	OTT offeror	s' to demons	trate missile	and platforr	n integration concepts	prior to
C. Other Program Funding Summary	FY 1995 FY 1996	6 FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	To <u>Complete</u>	Total Cost
TOW 2 C59300	36737 12020	13630	9570	8737				2300214
D. Schedule Profile	FY 1995 2 3 4	1 2	FY 1996 2 3	4	FY 1997 2 3	7. 3		
Release RFP Complete Source Selection				×		×		
Project DE18		Page 2 of 3 Pages	3 Pages			Exhibit	Exhibit R-2 (PE 0604325A)	





RDT&E PROGRAM ELEMENT/	NT/PROJECT COST BREAKDOWN (R-3)	COST B	REAKDO	WN (R-		DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm		PE NUMBER AND TITLE 0604325A FOIIC	AND TITLE A Follow	ΣΤΙΤΙΕ Follow-On To TOW) MO			PROJECT DE18
A. Project Cost Breakdown Primary Hardware Development	FY 1995		FY 1996	FY 1997				
Training Development Program Management Support Developmental Test and Evaluation Total			907 61 968	1296 4300 5596				
B. Budget Acquisition History and Planning InformationPerforming OrganizationsContractContractor orContractGovernmentMethod/TypeAward orPerformingPerformingor FundingObligationActivityActivityYehicleDateEACPRIMETBDTBDPlatformTBDTBDIntegrationTBDTBD	forming Project Activity Office EAC EAC TBD TBD TBD	Total Prior to FY 1995	EY 1995	FY 1996	EY 1997	S B	Budget to Complete Cont' d	Total Program Cont'd
Support and Management Organizations PM CCAWS, PO RSA, AL MICOM, RSA, AL PO MISC PO Test and Evaluation Organizations				393 448 66	434 672 190			
TECOM, APG, PO MD Product Development Organizations: None Government Furnished Property: None. Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project				61 907 61 968	4300 1296 4300 5596		Cont'd	Cont' d
Project DE18	Pa	Page 3 of 3 Pages	S		Exhibit	Exhibit R-3 (PE 0604325A)	4325A)	

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA	TION SI	HEET (R	TIFICATION SHEET (R-2 Exhibit)	bit)		DATE IN	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	evelopm	ent	PE NI 0 0 0	PE NUMBER AND TITLE 0604604A Medi	PE NUMBER AND TITLE 0604604A Medium Tactical Vehicles	actical V	ehicles		ā O	PROJECT DH07
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DH07 Family of Medium Tactical Vehicles (FMTV)	4292	1459	0	0	0	0	1696		Continuing	Continuing Continuing

maintainability and reliability of the existing 5 ton fleet. Funding is required in FY 96 in order to harmonize the Army effort with the U.S. Marine Corps MTVR as directed purpose transportation vehicles used by combat, combat support and combat service support units. This system is designed to be rapidly deployable worldwide and operate FMTV will also provide a follow-on to the current M939/A2 Series 5 ton truck. Body styles currently under development under Project DH07 were deferred from the first A. Mission Description and Budget Item Justification: This program element (PE) supports modernization of the Army's medium truck fleet. The Family of Medium 5 year multi-year contract due to budget constraints. Bringing these vehicles on line as soon as possible supports the pure fleeting of FMTV to reduce the logistics impact MTV Trailer). FMTV is required to fill 2 1/2 (LMTV) and 5 ton truck (MTV) requirements, resolve operational deficiencies and operate throughout the theater as multi-Tactical Vehicles (FMTV) will replace aging M44 Series 2 1/2 ton trucks, M39 and M809 Series 5 ton trucks which are beyond their average useful life of 20-22 years. and operating and support costs. This project supports the development of the FMTV Special Body Variants (MTV Tanker, MTV Expansible Van, LMTV Trailer and by Congress. This Program Element supports research efforts in the engineering and manufacturing development phases of the acquisition strategy and is therefore on primary and secondary roads, trails, and cross-country terrain. Vehicles operate in all climatic conditions. In FY 96, Project DH07 funds the Medium Truck Remanufacture Program (MTVR). This research and development effort is a prelude to embarking on a major remanufacture program to increase the mobility, correctly placed in Budget Activity 5.

production contract due to budget constraints. This Technical Data Package will be combined with the Technical Data Package obtained from the first contract to enable all models to be produced under the second FMTV production contract. The acquisition strategy for the Medium Truck Remanufacture Program (MTVR) is to award up to Acquisition Strategy: The acquisition strategy is to obtain a Level III Technical Data Package for the FMTV Special Body Variants that were omitted from the first three prototype contracts, which will lead to production.

FY 1995 Accomplishments:

- 1452 Finalize Special Body Variant Prototype contract (FMTV)
- Developmental Testing for Special Body Variants (FMTV) 1116
 - IOT&E Retest (FMTV) 1719
- Government Engineering (FMTV)

Project DH07

704

Page 1 of 5 Pages

Exhibit R-2 (PE 0604604A)







RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhib	it)	DATE	TE March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604604A Medi	ш _п	Tactical Vehicles	hicles	PR IO	PROJECT DH07
FY 1996 Planned Program:	Contract (MTVR)					
FY 1997 Planned Program: Program not funded						
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Value (FY 1995) Adjustments to FY 1995 Appropriated Value Adjustments to FY 1996 Appropriated Value Adjustments to Budget Year (FY 1997) since	FY 1996 1474 -15	FY 1997				
FY 1996 President's Budget Current Budget Estimate Submission 4292	1459					
Change Summary Explanation: Funding: FY 95: Reprogramming from project. Funding: FY 96: Congress increased program by \$1.5M for MTVR, also a portion of the FY 96 program has been reduced for economic assumptions.	also a portion of the	FY 96 program	ı has been re	duced for econ	omic assumptions.	
C. Other Program Funding Summary EY 1995 FY 1996 OPA1 Family of Medium Tactical Vehicles 370168 144054	EY 1997 FY 1998 233094 138738	EY 1999 3 234510	EY 2000 279296	FY 2001 341501	To Compl Cont	Total Cost Cont
(MYP) D15500 OPA4 Initial Spares (FMTV) OPA1 5 Ton Truck Extended Svc Pgm (ESP) DV0010		3319 60000	84216	84226	Cont	4386 Cont
Project DH07	Page 2 of 5 Pages			Exhibit R	Exhibit R-2 (PE 0604604A)	

RDT&E BUDGET ITEM JUSTIFICATION	ON SHEET (IFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604604A Medi	D TITLE Medium Tactical Vehicles	
D. Schedule Profile	FY 1996	FY 1997	
IOT&E Retest (FMTV) Developmental Testing (FMTV) Release RFP (MTVR) Source Selection Evaluation (MTVR) Award Prototype Contract (MTVR)	5 X	4 XX	4
*Complete			
Project DH07	Page 3 of 5 Pages	Ш	Exhibit R-2 (PE 0604604A)
	706		





RDT	RDT&E PROGRAM ELEMENT	RAM ELE	EMENT/PRC	JECT C	SOST BI	REAKDO	PROJECT COST BREAKDOWN (R-3)		DATE March 1996	96
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	g and Manuf	acturing D	evelopment		PE NUMBER AND TITLE 0604604A Medi	AND TITLE	m Tactica	Tactical Vehicles		PROJECT DH07
A. Project Cost Breakdown Product Development Developmental Testing IOT&E Testing Total	eakdown 1t ing			E <u>Y 1995</u> 1457 1116 1719 4292	EX	FY 1996 1459	EY 1997			
B. Budget Acquisition History and Planning Information	ion History and	Planning Info	<u>vrmation</u>							
Performing Organizations Contractor or Contra Government Metho Performing or Fun Activity Vehicl	zations Contract Method/Type or Funding	Award or Obligation <u>Oate</u>	Performing Activity EAC	Project Office EAC	Total Prior to EY 1995	EY 1995	FY 1996	FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Organizations Teledyne C-FFP	ent Organization C-FFP	ns Oct 88	13515	13515	13515					13515
(Prototype) Tactical Truck	C-FFP	Oct 88	14500	14500	14500					14500
(Frototype) Stewart Stevenson	C-FFP	Oct 88	17204	17204	17204					17204
(Prototype) Stewart Stevenson	C-FFP	Oct 91	10100	10100	10100					10100
(Tech Data Fkg) Stewart Stevenson (Tech Data Pkg	SS-FFP	Jun 92	1916	1916	1916					1916
update) Stewart Stevenson (Special Bodies	SS-CPFF	Sep 92	12774	12774	11322	1452				12774
Prototype) In-House/Eng			2167	2167	1668	ĸ	494			2167
Govt Eng (all other fld activities)			1024	1024	1024					1024
Project DH07				Pag	Page 4 of 5 Pages	S2		Exhibit	Exhibit R-3 (PE 0604604A)	

707

RDT	RDT&E PROGRAM ELEMENT/P	RAM EL	EMENT/PR	OJECT	COST B	REAKD	ROJECT COST BREAKDOWN (R-3)		DATE March 1996	96
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	j and Manuf	facturing (Jevelopmen	ميد	PE NUMBER AND TITLE 0604604A Medi	AND TITLE	oππ∟E Medium Tactical Vehicles	I Vehicles		PROJECT DH07
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to EY 1995	EY 1995	EY 1996	FY 1997	Budget to Complete	Total Program
SSEB, TACOM, MI (MTVR) Camber (Sys Spt							358 250			358
Contract) Prototype Contracts, TBS	C-CPFF						315			315
Support and Management Organizations: N/A Test and Evaluation Organizations TECOM (APG) TECOM (YPG) TEXCOM	gement Organi: 1 Organization:	zations: N/A s	7765 3000 4964	7765 3000 4964	6649 3000 3245	1116				7765 3000 4964
Government Furnished Property - None	shed Property -	None								
Subtotal Product Development Subtotal Support and Management	velopment I Management				71298	1457	1459			72755
Subtotal Test and Evaluation Total Project	aluation				12894 84192	2835 4292				15729 88484
									•	
Project DH07				P_{ℓ}	Page 5 of 5 Pages	es		Exhibit F	Exhibit R-3 (PE 0604604A)	(





RDT&E BUDGET ITEM JUSTIFICATION	STIFICATION SHEET (R-2 Exhibit) DATE March 1996	996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PENUMBER AND TITLE 0604609A Smoke, Obscurant and Target Defeating Systom - Engineering Development	PROJECT D200

			Sys	tem - En	System - Engineering Development) Develo	pment		
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
D200 Smoke/Obscurant Systems	5612	1945	0	0	2745	9037	11186	Continuing	Continuing Continuing

and obscurant agents, munitions, and devices to improve survivability of the combined arms force, complement combined weapons systems, and enhance force effectiveness M81 MMW/IR Smoke Grenades which support the Vehicle Integrated Defense System. The M81 provides IR and MMW screening from smart Anti-Tank Guided Missiles components of the M56 mounted on a M113A3 carrier. The M58 will equip smoke units in heavy units resulting in improved vehicle maneuverability and survivability; (3) (ATGM) and top attack weapons. The projects in this Program Element support efforts in the engineering and manufacturing development phase of the acquisition strategy A. Mission Description and Budget Item Justification: This program element supports the conduct of Engineering and Manufacturing Development (EMD) in smoke and combat power. Funding supports (1) Motorized Dual Purpose Mechanical Smoke Generator, M56 mounted on the High Mobility Multi-Purpose Wheeled Vehicle (HMMWV) to provide large area visual, infrared (IR) and millimeter wavelength (MMW)-radar obscuration; (2) The M58 Mechanized Smoke System consists of and are therefore correctly placed in Budget Activity 5.

The M58 System will purchase smoke generator components, the driver's viewer enhancer and gas particulate filter units on contracts and furnish as GFE to Anniston Army increase the visual obscuration capability of the system from 60 to 90 minutes, and will be developed and tested at CBDCOM. The proven design will then be integrated Acquisition Strategy: Project D200 - Smoke/Obscurants: The M58 Mechanized Smoke System, primarily an in-house effort, was type classified from the EMD phase. Depot to integrate the components on the converted platform (M113A3). The M56 P3I Modularity program is an in-house effort in the EMD phase. The program will into the on-going competitively awarded five-year multi-year production contract for the M56 Smoke Generator System.

FY 1995 Accomplishments:

- M58-Conducted Production Qualification Test (PQT) and Milestone III/Type Classification
- M81-Completed MMW/IR Grenade System Engineering and incorporated changes resulting from PPQT
 - M81-Conducted Milestone III/Type Classification In-Process Review

FY 1996 Planned Program:

- M56-P3I Modularity Complete design (drawings/tech data)
 - M56-P3I Modularity Conduct technical/user testing
- M56-P3I Modularity Conduct Milestone III In-Process Review
 - SBIR/STTR

- Revised Economic Assumption not available for execution

Project D200

Page 1 of 4 Pages

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUST	IIFICAT	HS NOI.	EET (R.	2 Exhit	Ĕ		DATE March 1996	1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	evelopme	int.	PE NUI 0604 Syst	PE NUMBER AND TITLE 0604609A Smol System - Engine	пLE moke, Ok jineering	PE NUMBER AND TITLE 0604609A Smoke, Obscurant and T System - Engineering Development	and Tar oment	Smoke, Obscurant and Target Defeating ingineering Development	PROJECT D200	0
FY 1997 Planned Program: No Planned Program.										
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Value (FY 1995)		EY 1995 3703 3625 +1087	EX	FY 1996 2000	EY 1997					
Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since				1965 -20						
FY 1996 President's Budget Current President's Budget Submit		5612		1945						
C. Other Program Funding Summary	EV 1005	EV 1006	EV 1007	EV 1009	EV 1000	EV 2000	FV 2001	To	To In	Total
RDTE, A Budget Activity 2, PE 0602622A	1954	1760	2343	2954	3696	4164	4233	Cont'd		Cont'd
RDTE,A Budget Activity 4, PE 063627A, Project DE79 Smoke, Obscurant and Equipment	3077	3160	6380	5631	4798	0	0	Cont'd		Cont'd
Defeating Systems OPA-3 Appropriation	:	•	,			•	,	,		
M99103, M56 Smoke Generator M99107, M58 Smoke Generator	12410	0 12301	12515	12723 9277	23330 7000	00	0001	Cont'd Cont'd		Cont'd Cont'd
M99104, M157A2 Smoke Generator Modification Kits, M157A2 Smoke Generator	0 0	5052 2722	3475 0	0 0	0 0	0	0		0	8527 2722
D. Schedule Profile	FY 1995 2 3	4	1 2	FY 1996 2 3	4	FY 1997 2 3	97 4			
M58-Conduct PQT M58-Initiate IOTE Modeling M58-Complete IOTE Modeling M58-Conduct MS III/TC	*	, , , , , , , , , , , , , , , , , , ,				1				
M56-Complete P31 Modularity Design			*×							
Project D200			Page 2 of 4 Pages	4 Pages			Exhib	Exhibit R-2 (PE 0604609A)	9A)	
			710							





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	JUSTIFICATIO	N SHEET (R-2 Exhibit)	DATE March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	lopment	PE NUMBER AND TITLE 0604609A Smoke, Obscurant and Target Defeating System - Engineering Development	PROJECT nd Target Defeating D200 nent	
D. Schedule Profile FY	FY 1995	FY 1996 FY 1997	4	
M56-Complete P31 Mod Tech/User Test M56-Conduct P31 Modularity MS III M81-Complete PQT M81-Milestone III X*	n	4	†	
Project D200	P	Page 3 of 4 Pages	Exhibit R-2 (PE 0604609A)	
		711		

RDT&E PROGRAM ELEMENT/PROJECT	ROJECT COST BREAKDOWN (R-3)		DATE March 1996	6
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604609A Smo System - Engine	PE NUMBER AND TITLE 0604609A Smoke, Obscurant and Target Defeating System - Engineering Development	2	PROJECT D200
A. Project Cost Breakdown Primary Hardware Development Systems Engineering Integrated Logistics Support Quality Assurance Reliability, Maintainability and Availability Reliability, Maintainability and Availability Reliability, Maintainability and Availability Technical Data Technical Data Test and Evaluation Government Engineering Support Program Management Support Program Management Personnel Hardware B. Budget Acquisition History and Planning Information: Not applicable.	4	. FY 1997		
Project D200	Page 4 of 4 Pages	Exhibit	Exhibit R-3 (PE 0604609A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA.	TION SI	HEET (R	१-2 Exhi	bit)		DATE	March 1996	9(
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Jevelopm	ent	PE N	PE NUMBER AND TITLE 0604611A Javelin	TITLE Javelin				1	РКОЈЕСТ D499
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D499 JAVELIN	29550	973	1643	1548	0	0	0		0	617476

forces. The present medium infantry antitank weapon is DRAGON. The system developed within this PE will replace the DRAGON to provide enhanced lethality for the developments will be considered and modifications studied to defeat these devices if necessary. EMD/Technical Support will conclude in FY 1995. This project supports (EMD) of a manportable antitank weapon system for the combined arms team employment. The infantry must have the capability to defeat numerically superior armored battleffeld obscurants. This system will be hardened against countermeasures and will not require extensive training for effective employment. Active protection system Mission Description and Budget Item Justification: This Program Element (PE) provides for the continuation of Engineering and Manufacturing Development early entry force. It will have a high kill rate against all known armor threats at extended ranges under day/night, adverse weather conditions and in the presence of research efforts in the engineering and manufacturing development phase of the acquisition strategy and therefore is appropriate to Budget Activity 5.

Acquisition Strategy: Not applicable.

FY 1995 Accomplishments:

- EMD Contract/EPP Contract/FTT Upgrade/Advanced Warhead Major Contracts
 - In-House Support (Program Management Office and RDEC) 3386

 - Other Government Agency Support 982
 - Test Support 3430
 - 29550

FY 1996 Planned Program:

- Program Management Support 14
- Test Support 935
 - SBIR/STTR
- Revised Economic Assumptions, not available for execution

FY 1997 Planned Program:

- Tracker Performance Upgrade Contract 1544
- Program Management Support

Project D499

Page 1 of 4 Pages

RDT&E BUDGET ITEM JUSTI	EM JUSTI	FICATION SHEET (R-2 Exhibit)	HS N	EET (R	-2 Exhil	oit)		DATE March 1996	96
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopmen	l	PE NUN 0604	PE NUMBER AND TITLE 0604611A Jave	этп <u>г</u> е Javelin				PROJECT D499
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Value (FY 1995) Adjustment to FY 1995 Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current Budget Estimate Submission		EX 1995 31337 33549 -3999 29550	FY 1996 0 983 -10	99 <u>6</u> 0 983 -10	EY 1997 0 1643 1643				
Change Summary Explanation: Funding: FY 1995 - Reprogrammed out of PE (-3999). Fy 1996 - Revised Economic Assumption (-10). FY 1997 - Program adjustment (+1643). Schedule: The Live Fire Test and the Limited User Test are currently scheduled for FY 1996. A tracker performance upgrade program will be completed in FY 1998. FY 1998. Technical: FY 1997 and FY 1998 funding is provided for a tracker enhancement effort. This program is designed to improve lethality of the system.	PE (-3999). sumption (-10). +1643). ted User Test ar is provided for a	e currently scl	heduled fi	or FY 1996 effort. This	. A tracker	performanc designed to	e upgrade pri improve lett	ogram will be complete	i p
C. Other Program Funding Summary Missile Procurement. Army	FY 1995 F	FY 1996 FY	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	To Complete	Total Cost
CC0007 Javelin (AAWS-M)	212583	200858	162104	147399	339693	603777	657858	99155	2649000
D. Schedule Profile	FY 1995 2 3	4	FY	FY 1996 2 3	4	FY 1997 2 3	97 . 3		
Award LRIP II Contract Conduct Physical Configuration Audit Initiate Production Verification Test Award LRIP III Contract Conduct System Level Live Fire Tests First Unit Equipped Full Rate Production Decision (ASARC) Award FRP Multiyear * Milestone Completed.	* *	* **	^	××					
Project D499		Pc	Page 2 of 4 Pages	Pages			Exhib	Exhibit R-2 (PE 0604611A)	
			i						





RDT&E PROGRAM ELEMENT/PF	PROJECT (SOSTB	REAKD(COST BREAKDOWN (R-3)		DATE March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ıt	PE NUMBER AN 0604611A	PE NUMBER AND TITLE 0604611A Javelin	E			РРОЈЕСТ D499
A. Project Cost Breakdown Major Contract Support Support Contractor Program Management Support Research and Development Center Support Test Support Miscellaneous (OGA)	EV 1995 21752 0 2647 739 3430 982		FY 1996 14 959	EY 1997 1544 99			
Total	29550		973	1643			
B. Budget Acquisition History and Planning Information							
Performing Organizations Contractor or Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity Vehicle Date EAC	Project Office EAC	Total Prior to FY 1995	EV 1995	FY 1996	FY 1997	Budget to Complete	Total
pment Organizations						,	
TI/MM JV EMD C/CPIF 06/21/89 462700 TI/MM JV ALT WHD CPIF 03/28/94 N/A TI/MM JV Upgrd TDB 12/31/96 N/A	465500 N/A N/A	473975 2250	19481 2271		1544	1120	493456 4521 0 2664
Support and Management Organizations Support Contractor 8(a)/CPFF	N/A	6747					6747
In-House Support (Core, Collocated,		75864	4368	14	66	368	80713
Test and Evaluation Organizations Redstone Technical Test Center, RSA, AL Other		18067 6859	1446 1984	656		09	19513
Government Furnished Property: Not Applicable							
Project D499	Pag	Page 3 of 4 Pages	Se		Exhibit	Exhibit R-3 (PE 0604611A)	()

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BE	REAKDO	WN (R-	<u>@</u>	DATE	March 1996	6
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604611A Jave	PE NUMBER AND TITLE O604611A Javelin	<u>ا</u>				PROJEСТ D499
	Total Prior to	500 LOOK	FV 1005	EV 1007		Budget to	Total
Subtotal Product Development	476225	21752	1 1990	1544		1120	500641
Subtotal Support and Management Subtotal Test and Evaluation	82611 24926	4368	14 959	66		368	87460
Total Project	583762	29550	973	1643		1548	617476
Project D499	Page 4 of 4 Pages	SZ		Exhi	bit R-3 (F	Exhibit R-3 (PE 0604611A)	
	ì						





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICAT	TION SE	HEET (R	االك	bit)	1	DATE	March 1996	6
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	evelopm	ent.	PE NC 0 0 0	PE NUMBER AND TITLE 0604619A Land	re NUMBER AND TITLE 0604619A Landmine Warfare	Warfare			d I	РRОЈЕСТ D088
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D088 Wide Area Munition (WAM)	30175	30179	17609	17500	19027	0	0		0	237703

WAM will significantly reduce U. S. and friendly forces casualties by using advanced smart munitions technology on the battlefield. The program provides for Engineering improvement WAM has 2-way command and control and redeployment capabilities, advanced sensors and computer and warhead technology. This project supports the A. Mission Description and Budget Item Justification: The Wide Area Munition (WAM) provides unique control and offensive capability for a variety of missions. and Manufacturing Development (EMD) of the basic WAM which is deployed by hand and has one way communications capability. The pre-planned product EMD phase of the acquisition strategy for the WAM and is, therefore, appropriately placed in Budget Activity 5.

the EMD contractor for the LRP quantity. Type Classification standard is planned for 2QFY97. FY 97 - FY 99 production buys will be included under the LRP contract as Acquisition Strategy: The basic WAM will transition to Low Rate Production (LRP) in the 3QFY96. A sole source Fixed Price Incentive Fee contract will be awarded to Firm Fixed Price options. A sole source Cost Plus Incentive Fee contract for EMD of an improved WAM will be awarded to the basic WAM developer in FY 96. Type Classification standard of the improved WAM is planned for 4QFY99.

FY 1995 Accomplishments:

- 1690 Completed System Critical Design Review
- 11022 Completed Contractor Prototype Qualification Review
- 17463 Procured and fabricated basic WAM Technical Test/User Test Hardware
- otal 30175

FY 1996 Planned Program:

- Fabricate Technical Test/Initial Operational Test and Evaluation (TT/IOTE) and Live Fire Hardware Targets for basic WAM
 - 14328 Complete TT/IOTE/Live Fire Testing for basic WAM
 - 14526 Complete 17/101E/ErVCT no resuming for ousing
- 450 Complete Functional Configuration Audit
- 750 Complete initial WAM PIP EMD trade-off Studies
- Funds will be used for SBIR/STTR programs IAW the Small Business Innovation Research Program Reauthorization Act of 1992 initiate design efforts for integration of Command & Control and Redeployablility 5245 641
- 85 Revised Economic Assumptions not available for execution
- otal 30179

Project D088

Page I of 4 Pages

Exhibit R-2 (PE 0604619A)

RDT&E BUDGET ITEM JUST	STIFICAL	ION SE	IEET (R	IFICATION SHEET (R-2 Exhibit)	oit)		DATE March 1996	98
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developmer	ment	PE NU 060	PE NUMBER AND TITLE 0604619A Land	DE NUMBER AND TITLE 0604619A Landmine Warfare	Warfare			PROJECT D088
 FY 1997 Planned Program: 5625 Complete WAM PIP Ground Platform Initial Functional Design 3309 Complete WAM PIP Control Unit Integration Design 8325 Procure and fabricate hardware for Contractor Prototype System Integration Tests 350 Design shipping and storage containers Total 17609 	Initial Function gration Design tractor Prototyp	al Design e System In	tegration Te	sts				
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995	EX 1995 33356 32675 -2500	Ē.	EY 1996 31028	EY 1997 18253				
Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since			30485 -306	-644				
Current President's Budget Submit	30175		30179	17609				
Change Summary Explanation: Funding: FY 1995: \$2500 was reprogrammed below threshold to higher priority requirements. FY 1996: This program has been reduced for revised economic assumptions. FY 1997: This program has been reduced for revised economic assumptions.	v threshold to h for revised eco for revised eco	igher priorit nomic assur nomic assur	y requireme nptions. nptions.	nts.				
C. Other Program Funding Summary EY 1995	5 FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	To	Total
ne Systems Iopment	•	5499	0	0	0	12155	Cont'd	Cont'd
	0 14581 0 1819 0 0	19299 0 1930	19140 0 0	30421 0 0	33014 0 0	32768 0 0	Cont'd	Cont'd
Project D088		Page 2 of 4 Pages	4 Pages			Exhibit	Exhibit R-2 (PE 0604619A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604619A Landmine Warfare	PROJECT D088
D. Schedule Profile	9661 Y	
Complete System Critical Design Review Complete Contractor Prototype Qualification Tests Fabricate basic WAM TT/IOTE Hardware Conduct basic WAM Low Rate Production Milestone Review Complete Live Fire Test Complete Live Fire Test Complete Live Fire Testing Complete Live Fire Testing Complete Live Fire Testing Complete Day WAM Milestone III Complete Day WAM Milestone III Complete Day Air Sensor Preliminary Design Review Complete PIP Air Sensor Preliminary Design Review Procure Initial Contractor System Component Test Hardware WAM PIP Milestone CIII - 4QFY99	2 X 2 X 4 X X 4 X X 5 X X 6 X X X	4 ×
Project D088	Page 3 of 4 Pages E>	Exhibit R-2 (PE 0604619A)

719

RDT&E PROGRAM ELEMENT/PROJEC	ROJECT COST BREAKDOWN (R-3)	KDOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604619A Land	PE NUMBER AND TITLE 0604619A Landmine Warfare	PROJECT D088
A. Project Cost Breakdown Primary Hardware Development Test and Evaluation Government Engineering Support GFM MISC Total	FY 1995 24596 2456 24261 584 538 3685 3072 864 776 76 8737 30175 30179	EY 1997 14470 317 1914 468 40 400 17609	
B. Budget Acquisition History and Planning Information Not Applicable	υ		



Page 4 of 4 Pages

Project D088

Exhibit R-3 (PE 0604619A)



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICAT	IS NOI	HEET (R	-2 Exhi	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	evelopm	ent	PE NI 060	PE NUMBER AND TITLE 0604622A Fami	ritle amily of	Неаvу Т	PENUMBER AND TITLE OGO HEAVY TACTICAL VEHICLES	ehicles		
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	0	2672	0	0	0	0	0		2672	2672
D659 Family of Heavy Tactical Vehicles	0	824	0	0	0	0	0		824	824
DE43 Semi-Trailer Van	0	1848	0	0	0	0	0		1848	1848

Mission Description and Budget Item Justification: Program element funds various heavy tactical vehicle capabilities to support combat and combat support missions. These missions include the following: line haul, local haul, unit resupply; and transporting water, ammo, and general cargo. This program element supports research efforts in the engineering and manufacturing development phases of the acquisition strategy and is therefore correctly placed in Budget Activity 5.

Page 1 of 7 Pages

Exhibit R-2 (PE 0604622A)

RDT&E BUDGET ITEM JUST	EM JUS		TION SE	HEET (R	IFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developmer	evelopm	ent	PE NI 000	PE NUMBER AND TITLE 0604622A Fami	E NUMBER AND TITLE D604622A Family of Heavy Tactical Vehicles	Heavy Ta	actical Ve	hicles		РКОЈЕСТ D659
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D659 Family of Heavy Tactical Vehicles	0	824	0	0	0	0	0		824	824

A. Mission Description and Budget Item Justification: This project supports requirements to develop expanded heavy tactical vehicle capabilities to meet the emerging needs of Army users. Specific requirements have been identified for development of alternate flatrack studies; a Palletized Load System (PLS) Universal Power Interface Kit which will provide interfaces for various PLS flatrack or module-based applications; a Heavy Expanded Mobility Tactical Truck-Load Handling System (HEMTT-LSLH) required to determine the effectiveness of the lighter PLS in meeting the mission requirement of airborne units through its enhanced air deployability; and the Forward Repair System (FRS) intended to meet the requirements for a maintenance shop capability to keep up with rapidly moving combat vehicles.

Acquisition Strategy: The acquisition strategy is to develop and test prototypes of future requirements to determine producibility and feasibility of incorporating vehicles into future production contracts.

FY 1995 Accomplishments: Not funded.

FY 1996 Planned Program:

- Flatrack Prototype
- GFE for Prototype/Concept Evaluation (FRS)
 - Continue Flatrack Study
- Prototype Application for Water Distributor Flatrack
 - **HEMTT-LHS Conversion** 153
- Concept Evaluation/Technical Testing (HEMTT-LHS)
- PLS Universal Power Interface Kit Development 167
- SBIR/STTR
- Revised Economic Assumptions not available for execution
- Total

FY 1997 Planned Program: Not Funded.

Project D659

Page 2 of 7 Pages

Exhibit R-2 (PE 0604622A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhit	oit)	DATE March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604622A Fami	TITLE Family of I	ס חדור כ Family of Heavy Tactical Vehicles	ehicles	PROJECT D659
B. Project Change Summary Previous President's Budget Appropriated Value Adjustments to Appropriated Value Current Budget Submit/President's Budget	FY 1996 831 -7 824	FY 1997			
Change Summary Explanation: Funding: Congress increased program for FHTV; also a portion was reduced for economic assumptions.	duced for economi	c assumptions.			
Program Funding Summary EX 1995 FY 1996 nily of Heavy Tactical Vehicles 15641 122525	<u>FY 1997</u> <u>FY 1998</u> 163343 19194	EY 1999 62679	FY 2000 FY 2001 60132 99225	3,	To Total Compl Cost TBD TBD
Y 1995	Y 199	-	FY 1997		
Provide GFE for FRS Prototype FRS Concept Evaluation/Test Award Prototype Contract (HEMTT- LLHS and Water Distributor) HEMTT-LHS Concept Evaluation/Test	n 7 ×	4 ×× ×	n		
Project D659	Page 3 of 7 Pages		Exhi	Exhibit R-2 (PE 0604622A)	22A)

RDT&E	PROGF	ZAM ELE	RDT&E PROGRAM ELEMENT/PR	ROJECT COST BREAKDOWN (R-3)	COST BF	EAKDC	WN (R-	∞	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	d Manufa	scturing D	evelopment		PE NUMBER AND TITLE 0604622A Fami	AND TITLE	of Heavy	אס אזחור כ Family of Heavy Tactical Vehicles	ehicles,	A O	Р ROJECT D659
A. Project Cost Breakdown Product Development Developmental Testing Total	u wi			FY 1995		FY 1996 634 190 824	EY 1997				
B. Budget Acquisition History and Planning Information	istory and	Planning Info	rmation								
Organiza	ations Contract	,			F						
Performing or Fundi Activity Vehicle	Method/1ype or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office EAC	1 otal Prior to FY 1995	FY 1995	FY 1996	FY 1997		Budget to Complete	Total Program
Product Development Organizations Oshkosh Truck CPFF	rganization F	s May 96					96				90
Corp Oshkosh Truck FFP	_	Aug 96					347				347
Corp. In-House Eng GFE		Mar 96 Mar 96					79				79
SBIR/STTR Revised Economic							18				18
Assumptions Support and Management Organizations: N/A Test and Evaluation Organizations TECOM Sep 96	nt Organiza ganizations	ations: N/A Sep 96					193				193
Government Furnished Property: N/A	Property: 1	A/A									
Subtotal Product Development	ment						634				634
Subtotal Support and Fraings Subtotal Test and Evaluation Total Project	ion						190 824				190 824
Project D659				Pa	Page 4 of 7 Pages	es		Exhil	Exhibit R-3 (PE 0604622A)	0604622A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA.	TION S	HEET (F	R-2 Exhi	bit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PE NI 0 0 0	PE NUMBER AND TITLE 0604622A Fami	TITLE Family of	Heavy T	E NUMBER AND TITLE JEOU Tactical Vehicles	hicles		PROJECT DE43
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DE43 Semi-Trailer Van	0	1848	0	0	0	0	0		1848	1848

A. Mission Description and Budget Item Justification: This project supports requirements to develop expanded heavy tactical vehicle capabilities to meet the emerging needs of Army users. Specific requirements have been identified for development of potable water in the corp/brigade support areas. Currently, the XM1098 is the only 5000 Gallon Hard Wall Bulk Potable Water Carrier in the Army's inventory. This vehicle can only be utilized in warm weather climates where there is no danger of the water freezing or becoming too hot for consumption.

XM1098 capability by maintaining the tanker water temperature in the desirable range of 40-80 degrees Fahrenheit. The kit will also provide the capability of providing on-The users' water requirements will be better satisfied by enabling the XM1098 to be used in a variety of temperature scenarios. The heater/chiller kit will enhance the demand hot (180 degree F.) and cold (55 degree F) water, regardless of ambient conditions.

heating and cooling system and on demand heating device. This effort also includes a recirculation pump and fluid level/temperature gauges, not currently available to the This funding supports an integrated technical demonstration of the feasibility of a heater/chiller system comprised of strap-on insulation, integrated power supply, bulk XM1098. Acquisition Strategy: The acquisition strategy is to develop and demonstrate two technology test beds to address the potential technology enhancements to the XM1098.

FY 1995 Accomplishments: Not funded

- Market survey of Technical Alternatives
 - Thermal Simulation and Analysis
 - System characteristics
- Cross Country Mobilization Simulation & Analysis 200
 - Technology Integration 150
 - Conceptual Design
- **Fechnology Component Acquisition** 400
 - System Modification
- System Installation
- **Technology Demonstration**

Page 5 of 7 Pages

Exhibit R-2 (PE 0604622A)

RDT&E BUDGET ITEM JUSTIFICATIO	N SHEET (FICATION SHEET (R-2 Exhibit)	DATE March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604622A Fami	лπ.∈ Family of Heavy Tactical Vehicles	tical Vehicles	PROJECT DE43
 FY 1996 Planned Program: (continued) 50 Final Report 5 Revised Economic Assumptions not available for Execution 41 SBIR/STTR Total 1848 	e			
FY 1997 Planned Program: Not funded.				
B. Project Change Summary Previous President's Budget Appropriated Value Adjustments to Appropriated Value Current Budget Submit/President's Budget	FY 1996 1862 14 1848	FY 1997		
Change Summary Explanation: Funding: FY 1996 Congress increased program; a portion of this was re	of this was reduced for economic assumptions.	ic assumptions.		
C. Other Program Funding Summary: N/A				
D. Schedule Profile FY 1995	FY 1996	FY 1997	7	
ח		· ×		
Project DE43	Page 6 of 7 Pages		Exhibit R-2 (PE 0604622A	2A)
	726			





RDT&E PROGRAM ELEMENT/	RAM EL	EMENT/PRO	JECT C	SOST BE	REAKDO	PROJECT COST BREAKDOWN (R-3)	<u>@</u>	DATE Marc	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	acturing D	evelopment		PE NUMBER AND TITLE 0604622A Fami	AND TITLE A Family	of Heavy	אס אחוור E Family of Heavy Tactical Vehicles	ehicles	PROJECT DE43	ЕСТ 3
A. Project Cost Breakdown Project Development Integration/Demonstration Total			FY 1995	EY	<u>FY 1996</u> 1848 1848	FY 1997				
B. Budget Acquisition History and Planning Information	Planning Info	ormation .								
Performing Organizations Contractor or Contract Government Method/Type Award or Performing or Funding Obligation Activity Vehicle Date Product Development Organizations CAETECH CPFF Nov 95 Support and Management Organizations: N/A Test and Evaluation Organizations: N/A	Award or Obligation Date IS Nov 95 ations: N/A	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	EY 1995	FY 1996 1848	FY 1997	Bud	Budget to Complete F	Total Program 1848
Government Furnished Property: N/A	A/A									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project										

Project DE43		·	Pag	Page 7 of 7 Pages	SZ		Exhib	Exhibit R-3 (PE 0604622A)	622A)	
				7.77						

RDT&E BUDGET ITEM JUST	EM JUS	TIFICAL	TION SE	FIFICATION SHEET (R-2 Exhibit)	-2 Exhil	bit)		DATE N	March 1996	3
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PE N(E NUMBER AND TITLE D604633A Air Traffic Control	пте V ir Traffic	Control		:	<u>a</u>	Р ROJECT D586
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D586 Air Traffic Control	11103	1764	5549	1825	1860	2180	2233		Continuing	Continuing Continuing

non-developmental item (NDI) programs. Fixed base ATC efforts funded by this line include Navigation Air Systems Modernization (NAVAID), Communication System Modernization and digitization of the ATC structure. The tasks in this Program Element support research efforts in the engineering and manufacturing development phases (ATNAVICS) and Tactical Airspace Integration System (TAIS). These systems provide urgently needed communications and precision/non-precision approach and flight following capability in support of Army tactical airfields, remote landing zones, drop zones, pickup zones and temporary helicopter operating areas worldwide. These are A. Mission Description and Budget Item Justification: This program element funds continuously evolving efforts for the development of Air Traffic Control (ATC) systems for both tactical and fixed base applications. It funds the integration and qualification of an Air Traffic Navigation, Integration, and Coordination System of the acquisition strategy and is therefore correctly placed in Budget Activity 5.

Acquisition Strategy: The acquisition strategy is to procure an ATNAVICS prototype through a Cost Plus Incentive Fee (CPIF) contract for integration of electronic/radar components to include design, development, and testing of an integrated prototype over a two year period. An additional component of the strategy is to continue concept exploration and design definition of the Tactical Airspace Integration System (TAIS) in order to be ready to participate in Task Force XXI.

FY 1995 Accomplishments:

ATNAVICS

- Procured prototype system for Developmental Testing/Initial Operational Test Evaluation (IOTE) 10037
 - Initial Operational Test Evaluation (IOTE) 200
- Designed, fabricated, tested prototype system 395 100
 - Planned test under operational conditions
- TAIS
- Design/system integration with Army communication hardware/software digitization integration analysis **88 83** 200
 - Hardware/software demonstration
- Evaluation and suitability study and cost saving data

Project D586

Page 1 of 5 Pages

Exhibit R-2 (PE 0604633A)





	RDT&E BUDGET ITEM JUSTIFI	CATION	SHEET (TIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development) 	PE NUMBER AND TITLE 0604633A Air T	отπ∟Е Air Traffic Control	PROJECT D586
FY 1996 Planned Program: ATNAVICS 1307 Continument TAIS 295 System TAIS 50 System T1 Suitabiles 36 SBIR/S Total 1764 FY 1997 Planned Program: ATNAVICS	rogram: Continue Prototype System for Developmental Testing/Initial Operational Test Evaluation System Performance System concept design definition Suitability study and cost saving data SBIR/STTR Revised Economic Assumption not available for execution	esting/Initial (execution	Operational Te	st Evaluation	
• 3950 • 750 TAIS	Continue development of prototype Developmental and Operational Testing				
• 600 • 249 Total 5549	Procure prototype system for Developmental Testing/Initial Operational Test Evaluation (IOTE) Design, fabricate, test prototype system	ting/Initial Op	oerational Test	Evaluation (IOTE)	
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustments to FY 1995 Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997)	Eigen FY 1996	FX 1995 7766 7604 +3499	FY 1996 1813 1782 -18	E <u>Y 1997</u> 1838 +3711	
President's Budget Current President"s Budget Submit	t Budget Submit	11103	1764	5549	
Project D586		Page 2	Page 2 of 5 Pages	Ê	Exhibit R-2 (PE 0604633A)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUSTIFICATI	ON SHEET (R-2	Exhibit)		DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopment	PE NUMBER AND TITLE 0604633A Air T	ס דודנב Air Traffic Control	ntrol		PR D	PROJECT D586
Change Summary Explanation: Funding: FY 95 increase (+3499) reflects reprogramming action from Project D327. FY 96 decrease (-18) reflects economic adjustment. FY 97 increase (+3900) reflects realignment from Aircraft Procurement Appropriation. FY 97 decrease (-189) reflects economic adjustment.	eprogramming action from nomic adjustment. alignment from Aircraft Pr nomic adjustment.	Project D327. ocurement Appropriatior					
C. Other Program Funding Summary APA AAOO5O - Air Traffic Control	FY 1995 FY 1996 1207 7934	EY 1997 EY 1998 1 8401 5889	FY 1999 FX 5937	FX 2000 EV 9360	<u>FY 2001</u> 40868	To Compl Cont'd	Total Cost Cont'd
D. Schedule Profile Procure prototype for ATNAVICS ATNAVICS Design and Fabricate Evaluation and suitability study for TAIS ATNAVICS System Performance TAIS System Design Definition ATNAVICS Testing Procure prototype for TAIS TAIS Design and Fabricate TAIS Developmental Testing * Denotes milestone completion.	FY 1995 2 3 4 X* X* X*	FY 1996 1 2 3 4 X X X	1	FY 1997 2 3 X X X X X X X X X X X X X X X X X X X	4		
Project D586		Page 3 of 5 Pages			Exhibit R-2	Exhibit R-2 (PE 0604633A)	
		730					





RDT&E PROGRAM ELEMENT/	RAM EL		PROJECT COST BREAKDOWN (R-3)	SOST BI	ZEAKD	OWN (R-	3	DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	acturing [Development		PE NUMBER AND TITLE 0604633A Air T	AND TITLE	ਹ ਸਾਜ∟ Air Traffic Control	[РКОЈЕСТ D586
A. Project Cost Breakdown			FY 1995	F	FY 1996	FY 1997				
Contractor Engineering Support			632		296	307				
Primary Hardware Development			9570		745	3950				
Program Management Support			901		472	542				
Development Test and Evaluation Government Furnished Equipment					210	750				
SBIR/STTR Revised Economic Assumption not available for execution	ailable for ex	ecution			36 5					
Total			11103		1764	5549				·
B. Budget Acquisition History and Planning Information:	Planning Inf	<u>ormation:</u>								
Performing Organizations										
Contractor or Contract										
.	Award or	Performing	Project	Total						
ing	Obligation	Activity	Office	Prior to			1		Budget to	Total
Activity	<u>Date</u>	EAC	EAC	FY 1995	FY 1995	FY 1996	FY 1997		Complete	Program
Developmen	S				1					
	Apr 95				9570	;				
	Mar 96					745	,		i	i
Raytheon CPIF	Dec 97						3950		Cont	Cont
Support and Management Organizations	ations									
Army Aviation &										
Iroop Command					100	7				(
(AICOM)					901	4/2 206	307		Control	Cont
Project D586					3				1100	
Test and Evaluation Organizations										
TEXCOM							750		Cont	Cont
Govt Furn Eqmt						210			Cont	Cont
SBIR/STTR						36				*
Revised Economic Assumption not available for execution	available for	execution				Ś				
			1				I	!		
Project D586			Pag	Page 4 of 5 Pages	SZ		Exh	ibit R-3 (PE	Exhibit R-3 (PE 0604633A)	
				73.1						

RDT&E PROGRAM ELEMENT/PROJECT	ROJECT COST BREAKDOWN (R-3)	REAKDO	WN (R-	3)	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604633A Air T	AND TITLE A Air Tre	PE NUMBER AND TITLE 0604633A Air Traffic Control	<u> </u>		R O	PROJECT D586
Government Furnished Property: N/A							
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Subtotal GFE Subtotal SBIR/STTR\Economic Assumption not available for execution	Total Prior to FY 1995	FY 1995 9570 1533	FY 1996 745 768 210	EY 1997 3950 849 750		Budget to Complete	Total <u>Program</u>
Total Project		11103	1764	5549			
							1461401411
Project D586	Page 5 of 5 Pages	Sž		Exhi	bit R-3 (F	Exhibit R-3 (PE 0604633A)	
	777						





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TEM JUS	TIFICA	TION SI	HEET (R	R-2 Exhi	bit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Developm	ent	PE NI 060 Vet	PE NUMBER AND TITLE 0604640A Adva Vehicle	тпте Advancec	Comma	PE NUMBER AND TITLE 0604640A Advanced Command and Control Vehicle	Control		PROJECT DG27
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DG27 Future Command and Control Vehicle	32370	17739	6649	6729	0	0	0		0	109174
A. Mission Description and Budget Item Justification: This project provides a fully-tracked, armored vehicle with a responsive, reconfigurable, and survivable command and control capability for battle staffs. The Command and Control (C2V) vehicle is capable of command and control during mobile, heavy force operations. C2V supports the Army Digitization effort and will be capable of hosting current and future communications and electronic systems compatible with the Army Tactical Command and Control System (ATCCS). C2V is a Desert Storm initiative and replaces selected M577 Command Post vehicles. M577's were found to have operational shortcomings and performance deficiencies during Operation Desert Storm. The program is currently in Engineering and Manufacturing Development (EMD).	fication: This The Commano Ill be capable of s a Desert Storn g Operation Do	project prov d and Contro of hosting cu m initiative a	ides a fully-t ol (C2V) veh rrent and fut and replaces The prograr	tracked, arm icle is capab ure commun selected M5	ored vehicle le of comma nications and 77 Commany y in Enginee	with a respond and contractions electronic selectronic	onsive, recon rol during mystems comples. M577's mufacturing	ifigurable, ar obile, heavy patible with were found Developmer	project provides a fully-tracked, armored vehicle with a responsive, reconfigurable, and survivable a and Control (C2V) vehicle is capable of command and control during mobile, heavy force operation thousting current and future communications and electronic systems compatible with the Army Tac minitiative and replaces selected M577 Command Post vehicles. M577's were found to have opera esert Storm. The program is currently in Engineering and Manufacturing Development (EMD).	ions. The ctical ational
Acquisition Strategy: The C2V is entering the second year of a three year EMD, Sole Source/Cost Plus Incentive Fee (SS/CPIF) contract that will end in FY 97. The mission module contract is being used for the vehicle. The mission module contract is entering the second year of a three year Cost Plus Fixed Fee (CPFF) contract that will end in FY 97. A follow-on SS/CPIF is planned for vehicle Low Rate Initial Production (LRIP) which begins in FY 97. A cost-type contract with options over the LRIP years (FY 97 thru FY 00) is planned for the mission module.	econd year of a licle. The miss for vehicle Low on module.	a three year lion module	EMD, Sole S contract is er Production	Source/Cost Intering the son (LRIP) which	Plus Incentiv econd year o th begins in l	re Fee (SS/K f a three year FY 97. A c	CPIF) contra ir Cost Plus I ost-type cont	ct that will e Fixed Fee (C tract with op	and in FY 97 CPFF) contra otions over th	. The ct that will e LRIP
FY 1995 Accomplishments: 14336 Fabricate Pre-Production Vehicles 1576 Design Logistics Effort 13197 Continue Design Engineering 1178 Begin Technical Testing 2083 Project Management Total 32370	ehicles ng									*****
FY 1996 Planned Program: 4525 Develop Technical Data Package /Producibility Engineering 2657 Logistics Effort 4234 Continue Design Engineering/Component Qualification/Contractor Test Support 961 Prototype Manufacture 759 Begin Live Fire Testing 2016 Technical Test/Limited User Test 2154 Project Management	ackage /Produc ng/Component	vibility Engir I Qualificatic	neering on/Contracto	r Test Suppo	t					
Project DG27			Page 1 of 5 Pages	'5 Pages			Exhib	Exhibit R-2 (PE 0604640A)	0604640A)	

RDT&E BUDGET ITEM JUSTIFICATION	FICATION SHEET (R-2 Exhibit)	R-2 Exhibit) DATE	E March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604640A Adva	PE NUMBER AND TITLE 0604640A Advanced Command and Control Vehicle	1
FY 1996 Planned Program: (continued)	ion		
FY 1997 Planned Program: 6 652 Complete Technical Data Package 1382 Logistics Effort 775 Prototype Manufacture 872 Complete Technical Testing 1549 Continue Live Fire Testing 97 Award LRIP Contract 1322 Project Management Total 6649			
B. Project Change Summary Previous President's Budget Appropriated Amount (FY 1995) Adjustment to EV 1005	EX 1996 18238	FY 1997 6866	
Adjustment to FY 1995 Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Years 1997 and 1998 Current President's Budget Submit	17919 -180 17739	-21 <i>7</i> 6649	
Change Summary Explanation: Funding: 1333 increase in FY 95: 1100 reprogrammed from PE 23735, Proj D344, 140 reprogrammed from PE 64645, Proj D413, and 93 reprogrammed from PE 23735, Prog D371 105 decrease in FY 96 due to economic adjustments 217 decrease in FY 97 due to economic adjustments	5, Proj D344, 140 re	orogrammed from PE 64645, Proj D413, a	ри
Project DG27	Page 2 of 5 Pages	Exhibit R-	Exhibit R-2 (PE 0604640A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEE	r (R-2 Ex	hibit)		DATE N	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604640A Adva Vehicle	AND TITLE A Advanc	PE NUMBER AND TITLE 0604640A Advanced Command and Control Vehicle	ind and C	ontrol	PROJECT DG27	ЕСТ 27
C. Other Program Funding Summary GA84200 Command & Control Vehicle GC0173 Spares (Initial) C2V Total PAA	EY 1997 FY 448985 44	FY 1998 FY 1999 43706 63613 979 960 44685 64573	9 EY 2000 3 105777 0 105777	FY 2001 152045 152045		To Compl Cont. Cont.	Total Cost Cont. Cont.
D. Schedule Profile FY 1995	FY 1996	. 4	FY 1997	97 4			
* *	* *	×	× ×				
NOTE: * denotes completed.							
Project DG27	Page 3 of 5 Pages	88		Exhib	Exhibit R-2 (PE 0604640A))604640A)	
	735						

PENAMERA NATION PENAMERA N	RDT&E	PROG	RAM ELE	RDT&E PROGRAM ELEMENT/PR	OJECT (SOST B	REAKDO	ROJECT COST BREAKDOWN (R-3)	3)	DATE	March 1996	9	
FY 1995 FY 1996 FY 1997 FY 1998 FY 1998 FY 1998	BUDGET ACTIVITY 5 - Engineering and	Manuf	acturing C	evelopmen		PE NUMBER 060464(Vehicle	AND TITLE	ced Comi	mand and	Control	<u>a</u> O	PROJECT DG27	
Organizations Contract Total Froject Total Project Total Project Total FY 1995 FY 1995 <th colspan<="" th=""><th>A. Project Cost Breakdow Design Engineering Prototype Manufacture Test In House Tasks SBIR/STTR Revised Economic Assumpt</th><th>vn tions Not</th><th>Available For</th><th>Execution</th><th>FY 1995 14773 14336 1178 2083 32370</th><th>a</th><th>1996 11416 961 2775 2154 383 50 7739</th><th>EY 1997 2034 775 2421 1419 6649</th><th>FY 1998 1941 4755 63</th><th></th><th></th><th></th></th>	<th>A. Project Cost Breakdow Design Engineering Prototype Manufacture Test In House Tasks SBIR/STTR Revised Economic Assumpt</th> <th>vn tions Not</th> <th>Available For</th> <th>Execution</th> <th>FY 1995 14773 14336 1178 2083 32370</th> <th>a</th> <th>1996 11416 961 2775 2154 383 50 7739</th> <th>EY 1997 2034 775 2421 1419 6649</th> <th>FY 1998 1941 4755 63</th> <th></th> <th></th> <th></th>	A. Project Cost Breakdow Design Engineering Prototype Manufacture Test In House Tasks SBIR/STTR Revised Economic Assumpt	vn tions Not	Available For	Execution	FY 1995 14773 14336 1178 2083 32370	a	1996 11416 961 2775 2154 383 50 7739	EY 1997 2034 775 2421 1419 6649	FY 1998 1941 4755 63			
ct Development Organizations: 31134 30938 32976 17552 10577 2809 an Jose, CA 2004 4689 11557 1800 Contracts 2077 1266 1763 1042 M 3242 817 824 377 M C Europe nd Evaluation Organizations: 192 1178 2775 2421 PG, White 192 1178 2775 2421	B. Budget Acquisition His Performing Organizations Contractor or Contr Government Meth Performing or Fun Activity Vehic	story and s ract od/Type unding	Planning Infi Award or Obligation	ormation Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	FY 1998	Budget to Complete	Total <u>Program</u>	
rt and Management Organizations: In and Management Organizations: In a star with the start of	United Defense (LP) San Jose, CA	ganizatioi	<u>e</u>	31134	30938	32976	17552	10577	2809			63914	
nd Evaluation Organizations: (PG, White 1978 2775 2421 mment Furnished Property: Not Applicable	Support and Management TACOM CECOM ARMY Europe	t Organiz	ations:		86761	2077 3242 2481	1266 817	1763 824	1042 377	1941 34 29		1998/ 6182 5289 2481	
Government Furnished Property: Not Applicable	Test and Evaluation Orga APG,YPG, White Sands	anizations				192	1178	2775	2421	4755		11321	
	Government Furnished P	roperty:	Not Applicabl	<u>ə</u>									
Project DG27 Page 4 of 5 Pages Exhibit R-3 (PE 0604640A)	Project DG27				Pa	ge 4 of 5 Pas	ies.		Exh	ibit R-3 (PE	0604640A)		





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BR	EAKDO	WN (R-3		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604640A Adva	AND TITLE A Advano	ced Comr	PE NUMBER AND TITLE 0604640A Advanced Command and Control Vehicle	Control		PROJECT DG27
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	Total Prior to <u>FY 1995</u> 37665 7800 192	EY 1995 29109 2083 1178 32370	EY 1996 12377 2587 2775 17739	EY 1997 2809 1419 2421 6649	EX 1998 1941 63 4755 6759	Budget to Complete	Total Program 83901 13952 11321
Project DG27	Page 5 of 5 Pages	S)	;	Exh	ibit R-3 (PE	Exhibit R-3 (PE 0604640A)	
	737						

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICAL	TION SH	HEET (R	-2 Exhil	oit)		DATE M	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	evelopm	ent	PE NI	PE NUMBER AND TITLE 0604641A Tacti	пте actical U	E NUMBER AND TITLE 0604641A Tactical Unmanned Ground Vehicle	d Ground	Vehicle	<u>а</u>	PROJECT DE47
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DE47 Tactical Unmanned Ground Vehicle	0	0	2884	2886	2877	2865	2842		0	14354

states a need for "combat-expendable" organic unmanned vehicles capable of providing relevant RSTA, chemical vapor detection, patrolling, and hazard/obstacle detection This PE supports research efforts in the engineering, manufacturing and design phase of the acquisition cycle and is therefore correctly placed in Budget Activity 5. This is combined forces by extending the control radius of human presence on the battlefield. The current Joint Army/Marine Corps Operational Requirements Document (JORD) A. Mission Description and Budget Item Justification: This is a Joint Service Program. This robotic system provides battalion Commanders and below with the ability for the maneuver forces, battalion and below. The project is OSD funded through Milestone II (3rd Qtr FY 98), at which point Army and Marine Corps funding begins. to see and shape the battlefield from a remote location utilizing Reconnaissance, Surveillance and Target Acquisition (RSTA), greatly extending the survivability of an ACAT III Program.

Demonstration and Validation. The vehicle platform, sensors, controlling actuators, and most other hardware components are available as NDI. To reduce risk, an in-house Demonstration and Validation phase will be executed using various assets, available to the government as NDI, each emphasizing a peculiar capability. The Demonstration Acquisition Strategy: The strategy is to integrate mature technologies with emerging command and control data link technology to produce a first generation system that request for proposal (RFP) for the Engineering and Manufacturing Development (EMD) phase, currently planned for Fiscal Year (FY) 1998. A full and open competition and Validation phase will produce system and interface specifications, through the use of an Integrated Product Team (IPT) approach, which will be incorporated into a will allow soldiers and Marines to perform complex RSTA from a remote position. This program differs from a traditional strategy by incorporating an in-house will be conducted at MS II to select a system prime contractor. The prime contractor's primary effort will be system integration.

FY 1995 Accomplishments: Project funded by OSD in FY 1995

FY 1996 Planned Program: Project funded by OSD in FY 1996

FY 1997 Planned Program:

- Develop and Release Engineering and Manufacturing Development (EMD) Request for Proposal (RFP) 662 1449
 - Initiate Development of Milestone II Documentation (COEA, TEMP)
- Initiate EMD Contractor Source Selection

Project DE47

Page 1 of 3 Pages

Exhibit R-2 (PE 0604641A)

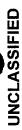




RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (DATE March 1996
BUDGET ACTIVITY 5. Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604641A Tact	ਮਸਸਦ Tactical Unmanned Ground Vehicle	PROJECT Vehicle DE47
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995	FY 1996 0	FY 1997 2985	
Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since	0	-101	
FY 1996 President's Budget Current President's Budget Submit Current President's Budget Submit Change Summary Explanation: Funding: FY 1997 funds reflect revised inflation adjustments (-101).	0	2884	,
C. Other Program Funding Summary This program is OSD funded through Demonstration and Validation. Army and Marine Corps funding begins 3rd quarter FY 97 with the start of Milestone II support activities.	Demonstration and	Validation. Army and Marine Corps f	unding begins 3rd quarter FY 97
D. Schedule Profile 1 2 3 4 1 Complete Cost and Oper. Effect. Analysis X* Approved JORD Milestone I Initiate User Appraisals Begin Developmental Test & Evaluation Develop Draft EMD Request for Proposal Release EMD Request for Proposal Initiate EMD Source Selection Initiate Milestone II Documentation	FY 1996 2 3 X* X* X	FY 1997 4 1 2 3 4 X X X X X X X X	
* Milestone Completed			
Project DE47	Page 2 of 3 Pages	Exhibi	Exhibit R-2 (PE 0604641A)
	739		

RDT&E PROGRAM ELEMENT/PROJE	ECT CO	ROJECT COST BREAKDOWN (R-3)	OWN (R-		DATE March	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	<u>d</u>	PE NUMBER AND TITLE 0604641A Tacti	cal Unman	नाता Tactical Unmanned Ground Vehicle	Vehicle	PROJECT DE47	F.
A. <u>Project Cost Breakdown</u> Government Engineering Support Program Management Support Total	FY 1995	FY 1996	FY 1997 1449 1435 2884				
lanning Information Award or Performing Obligation Activity Activity	Project Office <u>EAC</u> E	Total Prior to FY 1995 FY 1995	FY 1996	FY 1997	Budget to Complete	Pro	Total Program
Product Development Organizations MICOM RDEC RSA, AL Support and Management C UGV/S JPO RSA,				1449			1449
Test and Evaluation Organizations: None Government Furnished Property - Not Applicable				1449		Cont	Cont
Subtotal Support and Management Subtotal Test and Evaluation Total Project				1435		Cont	Cont
Project DE47	Page	Page 3 of 3 Pages		Exhibi	Exhibit R-3 (PE 0604641A)	341A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION S	HEET (R	-2 Exhi	bit)		DATE M	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	evelopm	ent	PE NI 060	PE NUMBER AND TITLE 0604642A Light	e number and TITLE 0604642A Light Tactical Wheeled Vehicle	tical Whe	eled Veh	icle		
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	0	4073	0	0	0	955	1895		6923	6923
DE40. Hi Mob Multi-Purp Whid Veh (HMMWV) Prototype	0	0	0	0	0	955	1895		2850	2850
DE41 Armored Security Vehicle (ASV)	0	4073	0	0	0	0	0		4073	4073

Mission Description and Budget Item Justification: This PE supports all Light Tactical Wheeled Vehicles such as the High Mobility Multi-purpose Wheeled Vehicle HMMWN Extended Service Program (ESP). Project DE40 funds the RDT&E effort required to incorporate updated design and technology, and will allow insertion of (HMMWV), Commercial Utility Cargo Vehicle (CUCV) and the Armored Security Vehicle (ASV). In FY96 DE41 funds the Armored Security Vehicle (ASV) and evolving performance requirements to support new HMMWV procurement. This program Element supports research efforts in the engineering and manufacturing development phases of the acquisition strategy and is therefore correctly placed in Budget Activity 5.

Page 1 of 5 Pages

Exhibit R-2 (PE 0604642A)

RDT&E BUDGET ITEM JUST	DGET IT	EM JUS	TIFICA.	TION SE	HEET (R	IFICATION SHEET (R-2 Exhibit)	bit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Na	turing D	turing Developme	ent	PE NI 060	PE NUMBER AND TITLE 0604642A Ligh	PE NUMBER AND TITLE 0604642A Light Tactical Wheeled Vehicle	tical Whe	eled Veh	icle		Р R ОЈЕСТ DE41
COST (In Thousands)	(S	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DE41 Armored Security icle (ASV)		0	4073	0	0	0	0	0		4073	4073
A. Mission Description at Budget Hem Justification: The Armored Security Vehicle (ASV) is a turreted, lightly armored all-wheel drive combat support vehicle will provide essential protection to selected Military Police units in highly exposed threat environments. The Military Police when the New Security Andi-helpe. The ASV is required to provide improved ballistic protection, increased payload and NBC protection to the MP teams. The need for such wheeled vehicle. The ASV is required to provide improved ballistic protection, increased payload and NBC protection to the MP teams. The need for such wheeled vehicle was highlighted by recent humanitatian missions such as Operation Restore Hope in Somalia and conflict in Bosnia. There is no other comparable system in the inventory which offers, the ballistic protection, transportability and mobility of the ASV. Congress directed FY 1995 funding for this program that offers, and a services needs were more. A joint service memorandum is in place. In FY 1995, Project DE41 also includes funding for the HMMWV ESP program in FY 1995. FY 1996 funding will continue this previous effort, thus enabling procurement of vehicles with updated design which will allow insertion of evolving performance requirements and extend the service life. We which an acquisition strategy for the HMMWV ESP is to develop a remanufacture package. Ascanisting Strategy:	to selected Military Police units in highly exposed threat environments. The Military Police (MP) currently use the High Mobility Multi to selected Military Police units in highly exposed threat environments. The Military Police (MP) currently use the High Mobility Multi ASV is required to provide improved bellistic protection, increased payload and NBC protection to the MP teams. The need for such a byte recent humanitarian missions such as Operation Restore then is Somalia and conflict in Bosnia. There is no other comparable system by recent humanitarian missions such as Operation Restore Hope in Somalia and conflict in Bosnia. There is no other comparable system by recent humanitarian missions such as Operation Restore Hope in Somalia and conflict in Bosnia. There is no other comparable system to be lististic protection, transportability and mobility of the ASV. Congress directed FY 1995 funding for this program under OSD FE needs were mer. A joint service memorandum is in place. In FY 1996, Project DE41 also includes funding for the HMMWV Exp Program in FY 1995. FY 199 misse effort, thus enabling procurement of vehicles with updated design which will allow insertion of evolving performance requirements and selfort, thus enabling procurement of vehicles with updated design which will allow insertion of evolving performance requirements and contract (ASV). Secondaria in FY 1997. The acquisition strategy for the HMMWV ESP is to develop a remanufacture package. Contract (ASV) and Engineering Support (ASV) and Engineering Support (ASV) ction Qualification Test (PPOT) (ASV) and Engineering Support (ASV) ction Qualification Test (PPOT) (ASV)	rtion: The / Police units provide impr rian mission transportab joint service fice, Tactica fice, Tactica ling procure s. FY 1997. T port (ASV) ge (HMMW n not availal	Armored Sec in highly ex oved ballisti s such as Opility and momemorandu I Wheeled V ment of vehi he acquisitio (ASV) V ESP)	urity Vehicl tposed threa ic protection peration Resultly of the im is in place. Whicles initicles with up icles with up is the ASV is an strategy from strategy from strategy from strategy from strategy from strategy from strategy.	te (ASV) is a tenvironmen, increased to the Hope in ASV. Cong e. In FY 190 ated the Join dated design to award on or the HMM.	nored Security Vehicle (ASV) is a turreted, lightly armored all-wheel drive comba highly exposed threat environments. The Military Police (MP) currently use the Fed ballistic protection, increased payload and NBC protection to the MP teams. The wich as Operation Restore Hope in Somalia and conflict in Bosnia. There is no oth yand mobility of the ASV. Congress directed FY 1995 funding for this program is in place. In FY 1996, Project DE41 also includes funding for the Hymoreoled Vehicles initiated the Joint Army/Marine Corps HMMWV ESP program is not of vehicles with updated design which will allow insertion of evolving performant of vehicles with updated design which will allow insertion strategy for the HMMWV ESP is to develop a remanufacture package. ASV) Solve execution	htly armored trary Police (MBC protect) I conflict in FY 1995 furine Corps Hallow insertiallow inserticontract (De o develop a	l all-wheel don to the M Sosnia. The nding for th ludes funding for th color of evolvi or of evolvi emanufacturemanufactu	rive combarrive combarrive combarrive the F P teams. There is no othors by program to program in a performation of performations in the performation in the p	nored Security Vehicle (ASV) is a turreted, lightly armored all-wheel drive combat support vehicle will highly exposed threat environments. The Military Police (MP) currently use the High Mobility Multed ballistic protection, increased payload and NBC protection to the MP teams. The need for such a such as Operation Restore Hope in Somalia and conflict in Bosnia. There is no other comparable syst by and mobility of the ASV. Congress directed FY 1995 funding for this program under OSD PE emorandum is in place. In FY 1996, Project DE41 also includes funding for the HMMWV Extended Wheeled Vehicles initiated the Joint Army/Marine Corps HMMWV ESP program in FY 1995. FY 193 and of vehicles with updated design which will allow insertion of evolving performance requirements acquisition strategy for the HMMWV ESP is to develop a remanufacture package. ASV) ESP)	
T. I. 1777 F. Hannes a togramma A. Color	חוון ווסר זמוומראה										



Page 2 of 5 Pages

Project DE41

Exhibit R-2 (PE 0604642A)



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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (F	R-2 Exhib	it)	אל ה	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604642A Light Tactical Wheeled Vehicle	тітге Light Tacti	cal Wheel	ed Vehicle	PROJEC DE41	РRОЈЕСТ DE41
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Value (FY 1995)	FY 1996 2187	FY 1997 896				
Adjustments to FY 1995 Appropriated Value Appropriated Value (FY 1996) Adjustments to FY 1996 Appropriated Value Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget	4114 -41	968-				
Current Budget Submit/President's Budget	4073	0				
Change Summary Explanation: Funding: FY96: Congress increased program by \$2.0M for HMMWV ESP, also a portion of the FY96 program has been reduced for economic assumptions. FY97: Program was zeroed during the PBD process.	SSP, also a portion o	of the FY96 pr	ogram has bee	n reduced for ec	onomic assumption:	
C. Other Program Funding Summary	EV 1007 EV 1998	FV 1999	FY 2000 F	FY 2001	To Compl	Total Cost
000				92623		35553 375 231739
D. Schedule Profile FY 1995 1 2 3 4 1	FY 1996 2 3	4	FY 1997 2 3	4		
		×	×			
Production Contract Award (ASV) Award Contract Reman Pkg (HMMWV)	×		<			
Project DE41	Page 3 of 5 Pages			Exhibit R-2 (Exhibit R-2 (PE 0604642A)	
	743					

RDT&E PRO		M CLEMENT/PR	ROJECT C	SOST BI	REAKDO	COST BREAKDOWN (R-3)	3) DATE	March 1996	96
BUDGET ACTIVITY 5 - Engineering ∈ d Manufacturing Developme	nufacturing	Development		PE NUMBER AND TITLE 0604642A Ligh	AND TITLE	Factical W	TITLE Light Tactical Wheeled Vehicle		PROJECT DE41
A. <u>Project Cost Breakdown</u> Product Development Developmental Testing Total			FY 1995	FY	F <u>Y 1996</u> 3348 725 4073	FY 1997			
B. Budget Acquisition History and Planning Information	and Planning In	<u>formation</u>							
Performing Organization Contractor or Contractor Government Method i ype Performing or Funding	be	Performing Activity	Project Office	Total Prior to	100¢	700 L XX	TX7 1007	Budget to	Total
Product Development Organizations TEXTRON (ASV CPFF]	<u>vate</u> ations Dec 95	A CONTRACTOR OF THE CONTRACTOR	<u>DAC</u>	1992	1 1 1 2 3 3	1112	. 1891	Complete	Frogram 1112
Prototype) In-House/Eng						203			220
AM General						1896			1896
(Keman Fkg) HMMWV ESP SIBR/STTR Revised Economic						91 29			91 29
Assumption Support and Management Organizations N/A Test and Evaluation Organizations TECOM (APG)	anizations ions					742			742
Government Furnished Property: N/A	ty: N/A								
Project DE41			Pag	Page 4 of 5 Pages	es		Exhibit R-3	Exhibit R-3 (PE 0604642A)	





RDT&E PROGRAM ELEMENT/PROJECT	ROJECT COST BREAKDOWN (R-3)	March 1996
BUDGET ACTIVITY 5. Engineering and Manufacturing Development	eeled Vehicle	PROJECT DE41
	Total Prior to EV 1005 EV 1005 EV 1007	Budget to Total
Subfotal Product Development	4073	
Subtotal Support and Management Subtotal Test and Evaluation	0	
Total Project	4073	
・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・		
Decises DEA1	Page 5 of 5 Pages Exhibit R-3 (PF 0604642A)	0604642A)

RDT&E BUDGET ITEM JUS	EM JUS		FIFICATION SHEET (R-2 Exhibit)	HEET (R	-2 Exhil	bit)		DATE IV	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Jevelopm	ent	PE NU 060 - Er	PE NUMBER AND TITLE 0604645A Armo - Engineering Do	PENUMBER AND TITLE 0604645A Armored Systems Modernization (ASM) - Engineering Development	Systems pment	Moderni	zation (A	(SM)	
COST (In Thcusands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	60852	38973	6726	0	4220	0	0		0	319551
D175 Advanced Field Artillery System Multi-Option Fuze	6109	6215	6726	0	4220	0	0		0	40836
D2AT Armored Gun System onal Test	2848	0	0	0	0	0	0		0	2848
D413 Armored Gun System (A	51895	32758	0	0	0	0	0		0	275867

point detonation functions for 105mm, 155mm and 8 inch bursting projectiles. Project D2AT, AGS Operational Test, supported funding of the dedicated Early User Test Mission Description and Budget Item Justification: This Program Element supports the Engineering and Manufacturing Development and Operational Testing efforts acquisition strategy and are therefore correctly placed in Budget Activity 5. Project D417, AFAS-ED, D418, FARV-ED, and D2KT, Operational Testing for AFAS have Manufacturing Development of the AGS. The projects in this program element support research efforts in the engineering and manufacturing development phases of the for the Advanced Field Artillery System Multi-Option Fuze for Artillery (MOFA) and the Armored Gun System (AGS). MOFA will provide proximity, time delay and and Experimentation (EUTE) to support a Low Rate Initial Production (LRIP) decision in FY 95. Project D413 (Armored Gun System), funds the Engineering and moved to Program Element 0604854, Artillery Systems-EMD beginning in FY97.

31/2

Page 1 of 12 Pages

Exhibit R-2 (PE 0604645A)





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1	RDT&E BUDGET ITEM JUS	EM JUS	TIFICAL	TIFICATION SHEET (R-2 Exhibit)	IEET (R	-2 Exhi	bit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering	BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	evelopm	ent	PE NU 060. - En	PE NUMBER AND TITLE 0604645A Armo - Engineering D	PE NUMBER AND TITLE 0604645A Armored System - Engineering Development	PE NUMBER AND TITLE 0604645A Armored Systems Modernization (ASM) - Engineering Development	Moderni	zation (4		РRОЈЕСТ D175
ŏ	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D175 Advanced Field	D175 Advanced Field Artillery System Multi-Option	6109	6215	6726	0	4220	0	0		0	40836
A. Mission Descript increase in artillery si combat components. detonation functions ammunition handling	A. Mission Description and Budget Item Justification: Crusader is the Army's next generation 155mm self-propelled howitzer system that will provide a significant increase in artillery survivability, mobility and operational capability and effectiveness through utilization and integration of advanced technology in its subsystems and combat components. This project finances the Engineering and Manufacturing Development phase of MOFA. MOFA will provide proximity, time delay and point detonation functions for 105mm, 155mm and 8 inch bursting projectiles. MOFA will be inductively (or manually) set contributing to Crusader's critical automated ammunition handling capability, allowing Crusader to meet extended range, rate of fire (12 rounds/min) and autonomous operations requirements.	ation: Crusa ational capab neering and I bursting pro	der is the Aulity and effe Manufacturii jectiles. Mo	rmy's next getiveness the ng Developn JFA will be rate of fire (1	eneration 1: rough utiliz nent phase o inductively	55mm self-pi ation and int of MOFA. N (or manually in) and autoi	ropelled how egration of a 10FA will properties of contribution of a contribution of	ritzer system dvanced tec rovide proxi uting to Cru ations requi	that will pr hnology in mity, time c sader's criti rements.	rovide a signi its subsystem lelay and poi ical automate	ficant s and nt d
FY 1995 Accomplishments:	hments: Baseline design, producibility maturation, electronics prove-out Program management, Management engineering services Subsystem testing	maturation, gement engin	electronics Į sering servic	prove-out ces							
FY 1996 Planned Program:	Final hardware design, integration and build Program management, Management engineering services Qualification testing/development and Operational testing SBIR/STTR Revised Economic Assumption not available for execution	ation and bui gement engin nent and Ope nn not availak	id eering servic rational test ole for execu	ces ting ntion							
FY 1997 Planned Program:	rogram: Design enhancements and updates, Production Readiness Review Program management, Management engineering services Continuation of Developmental and Operational testing, completion of Qualification testing and Type Classification testing	dates, Produc gement engin tal and Opera	tion Readin eering servi tional testin	ess Review ces g, completion	n of Qualifi	cation testing	3 and Type C	Nassification	ı testing		
Project D175	St. Confidence and Co			Page 2 of 12 Pages	12 Pages			Exhib	it R-2 (PE	Exhibit R-2 (PE 0604645A)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	JSTIFICA	TION SHEE	T (R-2 Ex	nibit)	DATE	E March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ment	PE NUMBER AND TITLE 0604645A Armo	NUMBER AND TITLE 604645A Armored System Engineering Development	d Systems dopme⊓t	ठ गारोह Armored Systems Modernization (ASM) ing Developmeक्षर	on (ASM)	Р R ОЈЕСТ D175
mma inst	FY 1995 6109	5 <u>FY 1996</u> 9 6388	FY 1997 6965	5 1.0			
Appropriated Amount (PY (20)) Adjustment to FY 1995 Appropriated Amount (FY (20)) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since		6277-	-239				
Current Budget Submit/Prosident's Budget	6109	9 6215	6726	10			
Change Summary Explanation: Funding: Adjustment in FY 96 due to Revised Economic Assumptions (-62) Adjustment in FY 97 due to Revised Economic Assumptions (-62)	momic Assump momic Assump	tions (-62) tions (-62)					
C. Other Program Funding Summary FY 1995	95 FY 1996	FY 1997 FY	FY 1998 FY 1999	9 FY 2000	FY 2001	To Comp	np Total Cos
RDTE, A Budget Activity 4 PE 6034645, Project 112840	40 127399						538022
Ammo, A Appropriation ER8017 MOFA			1901	31222	59638	265100	357861
RDTE, A Budget Activity 4 PE 63854, Project D505 Crusader - AD		255916 32	324285 296054	42983			919238
D. Schedule Profile FY 1995	995 3 4	FY 1996	6 3 4	FY 1997 1 2 3)7 3 4		
LM) lassification		·	>	>	×		
AM - Hatdware Delivery EM - Task IV start FM - Complete Task III	**		<	<			
ılification Test e Design Testing	*	**	×				
Project D175		Page 3 of 12 Pages	zes		Exhibit R-	Exhibit R-2 (PE 0604645A)	A)
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RDT&E BUDGET ITEM JUSTIFICATIO	TIFICATION SHEET (R-2 Exhibit)	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	DE NUMBER AND TITLE 0604645A Armored Systems Modernization (ASM)	(ASM) D175
or homodo.	ring Developm	
	FY 1996 FY 1997	
	· ×	
EM: Contract Completion T&E Milestones - Completion of	×	
Development & Operational Test		
WS-III (1997) See a second control of the se	×	
mpleted		
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Project D175	Page 4 of 12 Pages (PE 0604645A)	E 0604645A)
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RDT&E PROGRAM ELEMENT/PRO	JECT C	OST BR	EAKDO	ROJECT COST BREAKDOWN (R-3)	(1	DATE March 1996	996
вирсет Астіvіту 5 - Engineering and facturing Development		PE NUMBER AND TITLE 0604645A Armo - Engineering D	ND TITLE A Armore ring Dev	PE NUMBER AND TITLE 0604645A Armored System - Engineering Development	ns Moderni t	PE NUMBER AND TITLE 0604645A Armored Systems Modernization (ASM) - Engineering Development	Р ко ЈЕСТ D175
A. Project Cost Breakdown	FY 1995	FY 1996	960	FY 1997			
Product Development Support and Management	4909 600	₹ 4,	568 568	3943 500			
Test and Evaluation SBIR/STTR / Revised Economic Assumptions	009	77	1471 157	2281			
Total	6019	39	215	6726			
B. Budget Acquisition History and Planning Information							
Performing Organizations Contractor or Contract							
Method/Type Award or Per	Project	Total				Rudget to	Total
Performing or Funding Obligation Activity Activity Vehicle Date EAC	OIIICE EAC	FY 1995	FY 1995	FY 1996	FY 1997	Complete	Pro
Development Organizations			;				
Alliant Tech Sys CPIF May 92 18210	20015	10714	3309	3007	2985		20015
Hopkins, MN Raytheon/TI Joint SS-CPFF Mar 94		1788					1788
Ventures, "Property of the Property of the Pro							
Twesbury, MA AMCCOM		2812	1600	1012	096	4000	10384
ARDEC, D. S.							
NJ & Adelphi, MD Support and Management Organizations							
AMCCOM,		1747	009	268	200	220	3635
ARDEC, Dover NJ				`			
& Aucipin, ivid							
Test and Evaluation Organizations							
Project D175	Pag	Page 5 of 12 Pages	Si		Exhi	Exhibit R-3 (PE 0604645A)	(A)
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BF	REAKDO	OWN (R-	3)	DATE March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604645A Armo	AND TITLE A Armolering De	PE NUMBER AND TITLE 0604645A Armored System - Engineering Development	ns Modern t	PE NUMBER AND TITLE 0604645A Armored Systems Modernization (ASM) - Engineering Development	PROJECT D175
Contractor or Contract Government Method/Type Award or Performing Project Performing or Funding Obligation Activity Office Activity. TECOM, Yuma, AZ, APG, ARL, ARDC, HAFB	Total Prior to <u>FY 1995</u> 346	FY 1995 600	FY 1996 1471	FY 1997 2281	Budget to Complete	t to Total lete <u>Program</u> 4698
Government Furnished Property: None Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	15314 1747 346	4909 600 600	4019 568 1471	3945 500 2281	4	4000 32187 220 3635 4698
Total Project Total	17407	6109	6215	6726	4	4220 40836
Project D175	Page 6 of 12 Pages	es		Exhil	Exhibit R-3 (PE 0604645A)	15A)
	75.1					

RDT&E BUDGET ITEM JUSTI	EM JUS	TIFICA	TION SI	HEET (R	FICATION SHEET (R-2 Exhibit)	bit)		DAIE Ma	March 1996	6
вирсет Асті∨іт∀ 5 - Engineering and Manufacturing D∈velopmer	J∵velopm	ent	PE NI 060 - Er	PE NUMBER AND TITLE 0604645A Armc - Engineering D	PE NUMBER AND TITLE 0604645A Armored System - Engineering Development	Systems opment	Moderniz	PE NUMBER AND TITLE 0604645A Armored Systems Modernization (ASM) - Engineering Development		PROJECT D2AT
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	•	Cost to Complete	Total Cost
D2AT Armored Gun System Operational Test	2848	0	0	0	0	0	0		0	2848

trained to employ the system. CPTEC provides Army leadership with an independent test and evaluation of the effectiveness and suitability of the system. Project D2AT is support an LRIP decision in FY 95. This project finances the direct costs of planning and conducting operational testing and evaluation of the AGS by the Operational Test and Evaluation Command (OPTEC). Operational testing is conducted under conditions, as close as possible, to those encountered in actual combat with typical user troops A. Mission Description and Budget Item Justification: The AGS is an Acquisition Category II system with a dedicated Early User Test and Experimentation (EUTE) to not a new start; it represents test funds previously budgeted in PE 0605712, Support of Operational Testing, Project D001, OPTEC Initial Operational Test and Evaluation

Acquisition Strategy: Not Applicable

FY 1995 Accomplishments:

2848 Early User Test 2848

Total

FY 1996 Planned Program: No planned program

FY 1997 Planned Program: No planned program

FY 1995	2909	2848	0	2848
B. Project Change Summary	Previous President's Budget	Appropriated Value	Adjustments to Appropriated Value	Current Budget Submit/President's Budget

0000

FY 1997

FY 1996

Change Summary Explanation: Not Applicable

C. Other Program Funding Summary Not Applicable

Project D2A7



Page 7 of 12 Pages

Exhibit R-2 (PE 0604645A)



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604645A Armored Systems Modernization (ASM) - Engineering Development	PROJECT (ASM) D2AT
D. Schedule Profile 1 2 3 4 Early User Test and Evaluation X*	FY 1996 FY 1997 1 2 3 4 1 2 3 4	
* Milestone Completed (1988) C		
· 建分类性物质 医氯酚 医氯酚 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)		
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Project D2AT	Page 8 of 12 Pages Exhibit	Exhibit R-2 (PE 0604645A)

RDT&E BUDGET ITEM JUSTIFICATION	TIFICATION SHEET (R-2 Exhibit)	DATE March 1996	966
BUDGET ACTIVITY	PE NUMBER AND TITLE		PROJECT
5 - Engineering and Manufacturing Development	0604645A Armored Systems Modernization (ASM)	zation (ASM)	D413
	- Engineering Development		

COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
D413 Armored Gun System (AGS)	51895	32758	0	0	0	0	0	0	275867

employed during contingency force operations; therefore it must be capable of insertion via low velocity air drop (LVAD) and execute forced entry operations. Its role is to Urban Terrain. System capabilities include C-130 LVAD (Level I Armor), Roll-on/Roll-off C130/C141 (Level II Armor), Roll-on/Roll-off C-17 (Level III Armor), 105mm support infantry units in direct fire mode for point fire target destruction, generally against bunkers, threat medium armor systems, buildings, and in Military Operations in main gun (XM35) with autoloader, 3 man crew, fire control equivalent to M1 and mobility with Level III armor greater than the M551 Sheridan. The Army is terminating A. Mission Description and Budget Item Justification: The Armored Gun System (AGS) is a strategically deployable, tactically transportable, lightly armored, highly mobile, direct fire weapon system. The AGS will support light infantry forces in offensive and defensive operations, low and mid intensity conflicts. The AGS will be he AGS program because of changing Research Development and Acquisition (RDA) priorities and budgetary pressures.

Acquisition Strategy: The AGS program is not being terminated because of programmatic problems. The funding in FY 1996 will be used for an orderly close-out of the program. RDTE funds in FY97 and FY98 will be reinvested to make other important RDA programs healthier.

FY 1995 Accomplishments:

- 42501 Continue EMD
- 1800 Continue Vulnerability Testing
 - 3351 Continue Technical Testing
 - 4143 Project Management
- otal 51895

FY 1996 Planned Program:

- 27699 EMD
- 456 Technical Testing phase-out
- 236 Vulnerability Testing Completion
- 3575 Project Management
 - 700 SBIR/STTR
- 92 Revised economic adjustment not available for execution
- otal 32/58

FY 1997 Planned Program: No planned program

Project D413

Page 9 of 12 Pages

Exhibit R-2 (PE 0604645A)





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KDI&E BUDGE! IIEM JUSTIFICATIO	IIFICATION SHEET (R-2 EXHIDIU)	K-Z EXHIBIL)	March 1996	996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604645A Arm	NUMBER AND TITLE 604645A Armored Systems Modernization (ASM) Engineering Development	nization (ASM)	PROJECT D413
11Ty (FY 1996) 5 5 5	<u>FY 1996</u> 32077	FY 1997 13779		
Adjustment to FY 1995. Adjustment to FY 1996. Adjustment to FY 1996 Adjustment to Budget Year (FY 1997) since	33089 -331	-13779		
FY 1996 President's Budget Submit Current President's Budget Submit	32758	0		
Change Summary Explanation: Funding: FY 95 - Reprogrammed for Horizontal Technology Integration (HTI) efforts. FY 96 - Revised economic assumptions. FY 97 - Change to Acquisition Strategy. Terminate program. Schedule: All efforts have been put on hold pending formal announcement of program termination.	n (HTI) efforts. nent of program ten	nination.		
C. Other Program Funding Summary FY 1995 FY 1996 F	FY 1997 FY 1998	FY 1999 FY 2000 FY 2001	Cor	To Total npl Cost
WTCV, A Appropriation 1999 1999 1998 14814 142814 142814 142814				
	FY 1996	FY 1997 4 1 2 3	4	
Begin Vulnerability Testing X* X* EUT&E Complete Vulnerability Testing IPR (LRIP Decision)	×			
(Note: All efforts have been put on hold pending formal announcement of program termination) * Milestone Completed	ogram termination)			
,	Page 10 of 12 Pages	EX	Exhibit R-2 (PE 0604645A)	A)
	755			

RDT	RDT&E PROGRAM ELEMENT/P	SAM ELE	MENT/PRO	JECT C	OST BR	EAKDO	ROJECT COST BREAKDOWN (R-3)		DATE March 1996	96
вирсет АСТЮТҮ 5 - Engine∍ring and Manufacturing Development	and Manufa	acturing De	evelopment		PE NUMBER AND TITLE 0604645A Armo - Engineering D	AND TITLE A Armore ering Dev	PENUMBER AND TITLE 0604645A Armored System - Engineering Development	ns Moderni	STITLE Armored Systems Modernization (ASM) ing Development	РКОЈЕСТ D413
A. Project Cost Breakdown - All FY 96 efforts are necessary for an orderly close-out and termination of the EMD effort.Prototype Design, MFG, & SupportFY 1995FY 1996FY 1997XM35 Gun Design, MFG, & Support345046132FY 1997XM35 Gun Design, MFG, & Support6206823Government Testing377450Training Devices36783575Program Management139181EMD Termination20100SBIR/STTR700Revised Economic Assumption not available for execution5189532758Total5189532758	akdewn - All FY FG, & Support AFG, & Support it ssumption not av on History and 1	7 96 efforts are ailable for exec	necessary for an	orderly close FY 1995 34504 3594 6206 3774 3678 139	out and terminat FY 1996 6132 6132 823 823 8275 1105 3575 181 20100 700 92	rmination of the 6132 1105 823 50 3575 181 700 92 32758	e EMD effort. FY 1997			
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	FY 1995	FY 199 <u>6</u>	FY 1997	Budget to Complete	Total Program
United Defense LP SS/CPIF	SS/CPIF	Jun 92	TBD	215472	156625	34344	24503	0		0 215472
San Jose, CA SAAB Trning Sys Huckyarna Swed	FFP	Sep 94	4605	4605	1000	3605	0	0	J	0 4605
Misc Govt Agey	MIPR Box ont Organiza	tions			6400	3807	2174	0		0 12381
Support and Management Organizations PM AGS MIPR	gement Organiza MIPR	ations			5887	1997	3575	0		0 11459
Warren, Ml Miscellaneous	MIPR				1526	429	181	0		0 2136
Project D413				Page	Page 11 of 12 Pages	šes		Exhib	Exhibit R-3 (PE 0604645A)	7
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STATE OF STA	BBO IECT COST BBEAKDOWN (R-3)	PEAKING	W/N (R-3		DATE	3007	Г
ADIGE PROGRAM ELEMENTAROSES	1000	רבווסס			March 1996	1880	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604645A Armo	AND TITLE	ed Systen	ns Modern	PE NUMBER AND TITLE 0604645A Armored Systems Modernization (ASM)	PROJECT D413	۲. ۳
52.83	- Engine	ering Dev	Engineering Development				
Contractor or Contract Government Method/Type Award or Performing Project Performing or Funding Obligation Activity Office Activity Vehicle Date EAC EAC SBIR/STTR	tt Total e Prior to	FY 1995	FY 1996 792	FY 1997	Budget to Complete		Total Program 792
Revised Economic Assumptions Test and Evaluation Organizations ATC APG, MD MIPR Misc Govt Agcy MIPR	3571 1181	4916 1290	699	0 0		0 0	9186 2595
Government Furnished Property: None Product Development Property XM35 Gun MIPR Aug 91 Nov 92	11068						11068
Support and Management Property XM35 MIPR	2297	815	480				3592
Test and Evaluation Property (1988) AM35 Gunga MIPR (1988) AM35 Gung	1659	692	230				2581
Subtotal Product Development Subtotal Support and Management	175093	41756	26677 5028	000		0 2	243526
Subtotal Test and Evaluation Total Project	6411 191214	6898 51895	1053 32758	00		0	14362 275867
							* ***
Designation of the second seco	Page 12 of 12 Pages	Sad		Exhit	Exhibit R-3 (PE 0604645A)	45A)	

RDT&E SUDGET ITEM JUST	EM JUS		IIFICATION SHEET (R-2 Exhibit)	IEET (R	-2 Exhil	bit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PE NU 060 Dev	PE NUMBER AND TITLE 0604649A Engi Development	TITLE ingineer it	e number and Title 0604649A Engineer Mobility Equipment Development	Equipme	nt		
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	15167	23763	35410	24580	16721	14451	6977		0	163220
DG15 TRACTOR CARD	0	430	0	0	0	0	0		0	430
DG25 M1 Breacher	0	10619	33337	20032	8530	14451	6977		0	93946
DG26 Heavy Assault Bridge (HAB)	15167	12714	2073	4548	8191	0	0		0	68844

mobility characteristics comparable to the maneuver forces supported. Two projects are included in the PE; both are Operation Desert Storm initiatives. The two projects versatile/survivable full-width mine cleans blade with automatic depth control, a power driven excavating arm, and an armored commander's control station. The HAB will integrate a bridge capable of supporting Military Load Class (MLC) 70 ton loads and a launching mechanism. All projects in this PE support research efforts in the Pridge (HAB). The base for both vehicles is an M1 Abrams Tank chassis. The M1 Breacher will integrate on the chassis a Mission Description and Budget Item Justification: This Program Element (PE) supports the development of new, advanced combat engineer systems that will have Engineering and Manufacturing Develorment (EMD) phase of the life cycle acquisition strategy, and are correctly located in Budget Activity #5. are the M1 Breacher and the Heavy A.

Page 1 of 10 Pages

Exhibit R-2 (PE 0604649A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION SI	HEET (R	-2 Exhil	bit)	DATE		March 1996	40
ВИВОЕТ АСТІVITY 5 - Engineering and Manufacturing Developme	evelopm	ent	PE NI 060 Dev	PE NUMBER AND TITLE 0604649A Engi	ritle ingineer l nt	Mobility	E NUMBER AND TITLE 0604649A Engineer Mobility Equipment Development		Ŗ Ō	PROJECT DG25
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	0	Cost to Complete	Total Cost
DG25 M1 Breacher	0	10619	33337	20032	8530	14451	2269		0	93946

crew/vehicle survivability while clearing minefields and removing complex natural and man-made obstacles at the forward edge of the battlefield. The M1 Breacher will be capable of moving with, and be as survivable as, the force it is supporting. It will provide the maneuver force with the freedom required to successfully execute assigned A. Mission Description and Budget Item Justification: The M1 Breacher will provide the Combat Engineer with significantly improved mission effectiveness and ground combat mission requirements. Funding in this phase will support system technical evolution to meet operational requirements prior to production, production planning, and government testing prior to a Milestone III decision.

profile required by the Operational Requirements Document. Through the production buy the vehicle will be sole sourced to United Defense Limited Partnership (UDLP), leveraged the accomplishments of the Combat Mobility Vehicle Advanced Technology Transition Demonstrator (CMV-ATTD) contract. Design modifications have been Acquisition Strategy: The M1 Breacher, built around the M1 Abrams Tank chassis, utilizes a streamlined acquisition strategy. Research and development efforts have written into the Advanced Development contract for the powertrain and other chassis components/systems necessary to insure that the Breacher will meet the mission Ground Systems Division, York, PA.

FY 1995 Accomplishments: No planned program

FY 1996 Planned Program:

- 600 Award Breacher EMD Contract
- 1715 Provide Government and Contractor Program Management Oversight
- 3674 Finish Design Refinement and Continue with Logistics Development Efforts
 - 1627 Perform System Vetronics and Other Test Activities
- 237 SBIR/STTR
- 29 Revised Economic Assumptions Not Available for Execution
- To be reprogrammed to support extention to Advanced Development contract, PE/Project 0603649A/DG24 2737
- otal 10619

FY 1997 Planned Program:

- 1566 Conduct System Vetronics Testing
- 13443 Complete-Prototype Design Refinement

Project DG25

Exhibit R-2 (PE 0604649A)

Page 2 of 10 Pages

RDT&E BUDGET ITEM JUSTI		CATION	FICATION SHEET (R-2 Exhibit)	-2 Exhib	it)		DATE	Marci: 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopment		PE NUMBER AND TITLE 0604649A Engineer Mobility Equipment Development	ritle ingineer N it	Mobility E	quipmer	ıt I		PROJECT DG25
FY 1997 Planned Program: (continued) • 10083 Begin Validation of Manufacturing Facilities, • \$245 Provide Government and Contractor Program Total 3337		Processes and Procedur Management Oversight	Processes and Procedures; Prototype Repair and Modification Management Oversight	type Repair a	nd Modificat	ion			
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustments' o FY 1995	EX	FY 1995	<u>FY 1996</u> 10918	FY 1997 13275					
Appropriated Amount (FY 1996) Adjustments to FY 1996 Adjustments to Budget Year (FY 1997) since			10727 -108	20062					
Current President's Eudget Submit	er		10619	33337					
Change Summary Explanation: Funding: In FY 1996 \$2373 is planned to be reprogrammed to the Advanced Development budget, PE/Project 0603649A/DG24 to support current program requirement to extend the Demonstration/Validation phase. Also, decrease of \$108 is the result of revised economic assumptions. Increase of \$20062 in FY to support EMD phase of the program. Schedule: Completion Constem Advanced Development phase is now scheduled for 3Q96. Start of EMD phase has moved to the end of 3Q96.	e reprogrammed to ilidation phase. Al Development phas	the Advance so, decrease c e is now sche	to the Advanced Development budget, PE/Project 0603649A/DG24 to support current program Also, decrease of \$108 is the result of revised economic assumptions. Increase of \$20062 in FY 1997 nase is now scheduled for 3Q96. Start of EMD phase has moved to the end of 3Q96.	budget, PE/Pr tult of revised Start of EMI	oject 060364 economic as D phase has 1	49A/DG24 t ssumptions. moved to th	o support Increase e end of 3	current pro of \$20062 Q96.	gram in FY 1997
C. Other Program Funding Summary	FY 1995 FY 1996	996 FY 1997	997 FY 1998	FY 1999	FY 2000	FY 2001		To <u>Compl</u>	To Total apl <u>Cost</u>
RU1E, A Budget Activity 4 PE 0603649A, Project DG24, M1 Breacher AD PA, WTCV, GZ3200, Breacher MOD PA, WTCV, GEO175, Breacher Spares	15414 9	0886	25507	76979 1150	92793 2258	97940		Cont'd Cont'd	68747 'd Cont'd 'd Cont'd
D. Schedule Profile 1 Begin Development and Early User	FY 1995 2 3	4 * 1	FY 1996 2 3	4	FY 1997 2 3	3 4	-	FY 1998 2 3	4
Conduct Milestone II Review		~	×						
Project DG25		Page 🤅	Page 3 of 10 Pages			Exhibi	t R-2 (PE	Exhibit R-2 (PE 0604649A)	A)
			091						





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604649A Engineer Mobility Equipment Development	
D. Schedule Profile 1 2 3 4 Award Engineering and Manufacturing	FY 1996 1 2 3 4 1 2 3 X	FY 1998 4 1 2 3 4
Development (EMLD) Contract Begin Pre-Production Qualification Test I Award Facilitization Contract		××
* Milestone Completed		
		אסאסאססט בום ער מיייויים
Project DG25	Fage 4 of 10 Fages E.	EXIIIDIR R-2 (PE 0004049A)

RDT&E PROGRAM ELEMENT/P	RAM ELE	MENT/PR	ROJECT COST BREAKEDWN (R-3)	SOST BE	SEAK:	WN (R-		DATE March	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	cturing D	evelopment		PE NUMBER AND TITLE 0604649A Engi Development	AND TITLE A Engine	eer Mobili	PE NUMBER AND TITLE 0604649A Engineer Mobility Equipment Development	nt	PROJECT DG25	PROJECT DG25
Technology (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)										
A. Project Cost Breakdown			FY 1995	FY	FY 1996	FY 1997				
Development Engineering					2632	13443				
Logistics Support					1042	5322				
System Test & Evaluation				•	1627	6327				
System Project Management	7007.404.000	7		•	2313	8243				
10 be Reprogrammed to FE/Project 0603549A/DG24 SBIR/STTR and Revised Economic Assumptions Not Available	03549A/DG ssumptions N	24 ot Available			266 266					
for Execution	-									. •
Total				Ä	10619	33337				
B. Budget Acception History and Planning Information	Planning Info	<u>rmation</u>								
Organiz										
r Contract										
t Method/1ype	Award or	Periorming	Project	l otal				Ç.,C	40	Total
ng or Funding	Obligation	Activity	Office	Prior to	3001 787	7001 734	1001	gong		1 otal
Activity	<u>Date</u>	EAC	EAC	FX 1995	FY 1995	F X 1990	FY 1997	Com	Complete	rrogram
opment Organizations	· · · · · · · · · · · · · · · · · · ·	. !!				1				ļ
United Defense SS-CPIF	Mar 96	NA	NA			2737				2737
fense SS-CPIF	96 caf	NA	70816			5483	28007	Ċ	37326	70816
Other Contracts Various	Various	NA	NA				200			200
Support and Management Organizations	tions									
TACOM						1170	2357		1885	5412
Warren, MI										
Other Gov't						138	1207		628	1973
Agencies										
Contract Support						130			595	725
to Milestone Rev										
Project DG25			Pag	Page 5 of 10 Pages	ses		Exhib	Exhibit R-3 (PE 0604649A)	349A)	





RDT&E PROGRAM ELEMENT/PROJECT	RAM EL	EMENT/PR	OJECT	COST BREAKDOWN (R-3)	REAKDO	WN (R-3	DATE DATE	те March 1996	96
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developmo	acturing l	Development		PE NUMBER AND TITLE 0604649A Engi Development	AND TITLE A Engine ment	er Mobilit	pe number and Title 0604649A Engineer Mobility Equipment Development		PROJECT DG25
Contractor or Contract Government Method/Type Performing or Funding Activity, Vehicle ' SBJR/STTR and Revised Economic	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to F <u>Y 1995</u>	FY 1995	FY 1996 266	FY 1997	Budget to Complete	Total <u>Program</u> 266
Assumptions Test and Evaluation Organizations TECOM APG, MD						635	1098	8582	10315
Government Furnished Property Contract Method/Type Item Or Funding Description	Award or Obligation <u>Date</u>	Delivery <u>Date</u>		Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	Total <u>Program</u>
Test and Evaluation Property System Support Package	Mar 97	Jun 97				09	468	974	1502
roduct Developi upport and Man est and Evaluati ect	*					8220 1704 695 10619	28207 3564 1566 33337	37326 3108 9556 49990	73753 8376 11817 93946
Froject DG25			Pa	Page 6 of 10 Pages	səs		Exhibit F	Exhibit R-3 (PE 0604649A)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION S	HEET (R	-2 Exhil	oit)		DAIE	March 1996	96
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Developm	ent	PE NE	PE NUMBER AND TITLE 0604649A Engi	ENUMBER AND TITLE 0604649A Engineer Mobility Equipment	Mobility	Equipme	ıt	. .	Р R ОЈЕСТ DG26
			De	Development	1t					
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DG26 Heavy Assault Bridge (HAB)	15167	12714	2073	4548	8191	0	0		0	68844

retrieve time will be a total of ten minutes or less which includes five minutes to engage plus five minutes to place the vehicle in a travel mode. The base for the HAB is an A. Mission Description and Budget Item Justification: The HAB will provide Military Load Class (MLC) 70 vehicles the capability to cross 24-meter gaps (26-meter bridge). The HAB will have mediting characteristics comparable to the maneuver forces it will support. The launch time for the bridge will be five minutes or less; the MIA2 Abrams Tank chassis.

selected to complete Phase II of EMD with a Cost-Plus-Award-Fee contract. A contract will be awarded in FY 96 for 2 HAB systems with an option for four additional Acquisition Strategy: Side-by-side Demonstration Testing was completed in FY 93 on three different prototype bridges and launchers for Phase I of Engineering and Manufacturing Development (EMD). As a result of the testing and submission of proposals, one contractor, General Dynamics Land Systems Division (GDLS), was systems that will complete development testing. Follow-on Fixed Price contracts will be awarded for LRIP and Production requirements.

FY 1995 Accomplishments:

- 2758 I'MD Phase II Contract; Conducted Critical Design Review (CDR), Started Prototype Build
 - 112 Parchased GFE
- 321 Systems Engineering Analysis Contract
- Program Management; Reviewed CDR, Conducted Program Reviews, Matrix Support and Prepared Request For Proposal (RFP) for 6 Test Vehicles 1976
 - al 15167

FY 1996 Planned Program:

- EMD Phase II Contract; Complete Prototype Build; Complete Contract Testing and Support Government Testing 7857
 - 2000 Systems Technical Support Contract
- 419 Award of Environmental Study / Various Engineering Services Contracts
 - 2118 Program Management; Conduct Logistics Demonstration, Start PPQT
- 284 SBIR/STTF
- 36 Revised Economic Assumptions Not Available for Execution
- otal 127

Project DG26

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Page 7 of 10 Pages

Exhibit R-2 (PE 0604649A)



			Liter
RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R.	2 Exhibit)	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604649A Engi Development	PE NUMBER AND TITLE 0604649A Engineer Mobility Equipment Development	PROJECT Ient DG26
FY 1997 Planned Program: - 2073 Complete EMD II Contract Total 2073			
nary FY (FY 1996) 1 1 1995) 1	FY 1996 10471	<u>FY 1997</u> 1109	
Adjustments to FY 1995 Appropriated Amount (FX 1996) Adjustments to FY 1996 Adjustments to Budget, Year (FY 1997) since	12842 -128	964	
FY 1996 President's Budget Current President's Budget Submit	12714	2073	
Change Summary Explanation: Funding: FY:1995 below threshold reprogramming (+\$1000 from PE 0203735A, Project D330; +\$100 from PE 0203735A, Project D280; +\$385 from PE 0604778A; Project D163; +\$141 from PE 0604808A, Project D415; +\$74 from PE 0603797A, Project C53; and +\$1360 from HQDA). FY 1996 decremented for perconomic adjustments. Increase in FY97 supports program test requirements.	203735A, Project D33 874 from PE 0603797 nents.	80; +\$100 from PE 0203735A, PA A, Project C53; and +\$1360 fron	roject D280; +\$385 from PE 1 HQDA). FY 1996 decremented for
C. Other Program Funding Summary FY 1995 FY 1995 FY 1996 F PA, WTCV, GZ3250, HAB MOE 14610 PA, WTCV, GB0177, HAB Spares	FY 1997 FY 1998 51377 45588 967	FY 1999 FY 2000 FY 2001 52427 78817 109671 966 1554 1637	To Total 1 Complement Cost 1 Cont'd Cont'd 7 Cont'd Cont'd
D. Schedule Profile Conglete 1 Separate 1 2 3 4 1 Conduct CDR Supplement X*	FY 1996 2 3	FY 1997 4 1 2 3 4	
SS STOS PROPAR	××	××	
ompieted		Ĺ	(VOXOXOQ LO) C O 1:1:
Project DG26	Page 8 of 10 Pages	EXU	EXNIBIT K-Z (PE U6U4649A)
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RDT&E PROGRAM ELEMENT/P	I/PROJECT	ROJECT COST BREAKDOWN (R-3)	REAKDO	WN (R-	3) DATE	March 1996	9
вирсет АстіVITY 5 - Engineering and Manufacturing Development	ment	PE NUMBER AND TITLE 0604649A Engi	AND TITLE A Engine Iment	eer Mobili	DTITLE Engineer Mobility Equipment ent		РRОЈЕСТ DG26
A Project Cost Breakdown	FY 1995		FY 1996	FY 1997			
Development Engineering	12307		9617	1928			
Logistics Support	8		099	145			
System Test & Evaluation	,	,	1280				
System Project Management SBIR/STTR and Revised Economic Assumptions Not Available		1976	837 320				
for Execution Total	15167		12714	2073			
B. Budget Acquisition History and Planning Information							
Performing Organizations							
Covernment Method/Two Award or Performing	ing Project	Total					
or Funding Obligation		Prior to				Budget to	Total
Vehicle Date	EAC EAC	FY 1995	FY 1995	FY 1996	FY 1997	Complete	Program
							,
C-CPAF Jan 94	NA 35318	13932	12758	7857	2073		36620
				000			1000
SS-CPFF Feb 96	NA NA			2000		/691	1696
SMS Corp SS-T-D May 92	NA NA	8625					5798
MO							1
Other Contracts Va Various	NA NA	432	321	419			1172
Support and Management some jons			i i	1			
PMO Support		3594	1673	827			6094
ANAD		381	15			2000	2396
Anniston, AL		ţ	,	•			7007
Other Gov't		11/9	196	01			1385
Agencies							
Project DG26	I	Page 9 of 10 Pages	ges		Exhibit R-	Exhibit R-3 (PE 0604649A)	





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RDT&E PROGRAM ELEMENT/	GRAM EL		PROJECT (COST BI	SEAKDC	COST BREAKDOWN (R-3)		Mai	March 1996	
BUDGET ACTIVITY	- Sainte	- domaolovo		PE NUMBER AND TITLE	AND TITLE	or Mobili	PE NUMBER AND TITLE 0604649A Engineer Mobility Equipment		PR D	PROJECT DG26
5 - Engineering and Manulaciuning Development				Development	ment		ry Equipmen	,	í	
	1		, d	Tatal						
Government Method/1ype	Award or Ohligation	Perrorming Activity	Project	Frior to				Ā	Budget to	Total
	Date	EAC	EAC	FY 1995	FY 1995	FY 1996	FY 1997	ŭ	Complete	Program
SBIR/STTR and						320				320
Revised Economic										
Assumptions Test and Frankations										
TECOM (C.	2			268	<i>L</i> 9	1067			1500	3202
APG, MD	*				Č					300
WSMR					5	180				C07
White Sands, NM										
Government Furnished Property										
Confract										
Method/Type				Total				,	;	E
Item or Funding	Obligation	Delivery		Prior to				Ā (Budget to	Total
<u>Description</u> <u>Vehicle</u>	<u>Date</u>	<u>Date</u>		FY 1995	FY 1995	FY 1996	FY 1997	ات ا	Complete	Program
Product Development Property	Varions	Varions		267	112					380
Solutions Cov t										• "
Test and Evaluation Property										
To Be Determined MIPR	Apr 96	96 unf				33			1548	1581
Subtotal Product Develonment				20429	13191	10277	2073		7691	53661
Subtotal Support and Management				5154	1884	1157			2000	10195
Subtotal Test and Evaluation			•	568	92	1280	2073		3048	4988
lotal Project				10107	10101	1777				
A Property of the Control of the Con										
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end perspectable and the estables	Also de la companione d									
Project DG26			Pag	Page 10 of 10 Pages	ges		Exhibit	Exhibit R-3 (PE 0604649A)	04649A)	
				191						

RDT&E BUDGET ITEM JUST	FM JUS		FIFICATION SHEET (R-2 Exhibit)	IEET (R	-2 Exhil	bit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	Developm	ent	PE NU 060 Dev	PE NUMBER AND TITLE 0604710A Nigh Development	пт∟е light Visi nt	PE NUMBER AND TITLE 0604710A Night Vision Systems - Engineering Development	ms - Eng	ineering		
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	41162	38613	33637	21646	20731	17952	28876	0	Continuing	Continuing
DL69 Horizontal Technology Integration Second Generation FLIR (HTI SGF)	24401	28584	13443	3317	0	0	0	0	0	85097
DL70 Night Vision Devices E regring Development	16761	10029	12482	11304	16256	17952	28876	0	Continuing	Continuing
DL74 Long Range Advanced Scour Surveillance System (LRAS3)	0	0	7712	7025	4475	0	0	0	0	19891

soldiers; and a variety of other systems such as a Synthetic Aperature Radar (SAR), Moving Target Indicator radar (MTI) and the Target Acquisition System (TAS). Project DL74 focuses on a long range multi sensor system utilizing Horizontal Technology Integration Second Generation FLIR (HTI SGF) thermal sensors and other technologies, for use by US Army scoure. The projects in this PE support development efforts in the engineering and manufacturing development phases of the acquisition strategy and twenty four hours a day under conditions with degraded visibility due to darkness, adverse weather and battlefield obscurants. Developments and improvements to high Mission Description and Budget Item Justification: This program element provides night vision technologies required for US defense forces to engage enemy forces inserting key mermal sensor technology into common battle groups. Project DL70 focuses on a variety of night vision electro-optical equipment for use by individual identification, acquisition and engagement as well as improve battlefield command and control in "around the clock" combat operations. Project DL69 is focused on performance night vision electro-optics, laser, thermal and radar systems and systems integration of related multi sensor suites will enable near to long range target are therefore correctly part in Budget Activity 5.

Page 1 of 15 Pages

Exhibit R-2 (PE 0604710A)





								DATE		
RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	LION SI	HEET (R	-2 Exhil	bit)		DAIE M	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PE NI 060	PE NUMBER AND TITLE 0604710A Night Vision Systems - Engineering Development	որևե light Visi ıt	on Syste	ms - Enç	gineering		PROJECT DL69
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
- DL69 - Horizontal Technology Integration Second Generation FLIR (HTI SGF)	24401	28584	13443	3317	0	0	0	0	0	85097
A. Mission Description and Budget Item Justification- Horizontal Technology Integration Second Generation FLIR (HTI SGF) will enable the Army to insert key thermal sensor technology into the highest priority forces (the M2A3 Bradley Fighting Vehicle System and the M1 Abrams). The HTI SGF will allow all vehicles in a common battle group to see the same thermal image. The HTI SGF development is in two parts, an "A" kit, which is specific to the vehicle, and includes integration and installation, and a "B" kit, which includes the common Forward Looking Infrared (FLIR) sensor and display. Funds in this project will develop the "B" kit.	ation- Horiz forces (the M e. The HTI S non Forward	contal Techr (2A3 Bradley (GF develop) Looking Infi	ology Integ / Fighting V nent is in tv ared (FLIR	ontal Technology Integration Second Generation FLIR (HTI SGF) will enable the Arm 2A3 Bradley Fighting Vehicle System and the M1 Abrams). The HTI SGF will allow all wGF development is in two parts, an "A" kit, which is specific to the vehicle, and includes in Looking Infrared (FLIR) sensor and display. Funds in this project will develop the "B" kit.	nd Generat m and the M 'A" kit, whic display. Fur	ion FLIR (F 1 Abrams). h is specific nds in this pr	ITI SGF) w The HTI SC to the vehic oject will de	vill enable the 3F will allow 31e, and inclu evelop the "E	e Army to in v all vehicles ides integrati 3" kit.	sert key in a on and
Acquisition Strategy: The common Second Generation Forward Looking Infrared (FLIR) sensor and display "B" Kit is being developed and fabricated using a competitively awarded cost plus award fee contract.	ation Forwar	d Looking Ir	ıfrared (FLI	R) sensor an	d display "B	" Kit is beinį	g developed	and fabricat	ed using a	
一	gineering & d component ed componen	Manufacturi prototypes t prototypes	ng Develop into "B" kit:	Manufacturing Development (E & MD) B kit prototypes and pilot line for HTI SGF prototypes t prototypes into "B" kits	1D) B kit prc	ototypes and	pilot line fo	r HTI SGF		
FY 1996 Planned Program: • 25895 Continue development, fabrication of B kit, integration kits and pilot line • 10 Decir, macht local qualifications (contractor technical testing) of B&MD prototymes for HTI SGF	tation of B k	it, integration	ו kits and pii	lot line	nes for HTI	Z.				
1167. Qualification testing of E&MD B kit prototypes 632. SBIR/STTR Reduction not available for execution 80. Revised Economic Assumption not available for execution	IIS (Colludated) D B kit prote vailable for e on not availa	otypes xecution ble for execu	stang) or the	civity protects						
Total 28584.1.2.										
 FY 1997 Planned Program: 12907 Complete development and fabrication of B kit 286 Complete sight level qualification testing of E&MD prototypes for HTI SGF 250 LRIP Decision for Bradley Fighting Vehicle System M2A3 	abrication of ation testing ighting Vehi	B kit of E&MD pr cle System M	ototypes for 12A3	r HTI SGF						
Total 13443			Page 2 of 15 Pages	15 Pages			Exhib	Exhibit R-2 (PE 0604710A)	3604710A)	
Froject Droy			1 480 4 0	12 1 4500					200	

RDT&E BUDGET ITEM JUST	EM JUSTIFICA	IIFICATION SHEET (R-2 Exhibit)	EET (R-	2 Exhib	Ē		DATE Marc	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopment	PE NU 060	PE NUMBER AND TITLE 0604710A Night Vision Systems - Engineering Development	TLE ght Visio	n Syster	ns - Eng	ineering	PR(DL	РRОЈЕСТ DL69
B. Project Change Summary Previous President's Budget (FY 1996) Approxiated Amount FY 1995)	EY 1995 24924 24401	됩	<u>FY 1996</u> 29387	FY 1997 23406					
Adjustment to FY 19 Adjustment to FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since		2	28873 -289	£966 -					
FY 1996 President's Budget Current President's Budget Submit	24	24401 2	28584	13443					
Change Summary Explanation: Funding: FY 1996, Revised economic assumptions, (-289). Realign FY 1997 HTI SGF funds (DL69) to LRAS3 (DL74) and Abrams (0203735A Project D330) to support A Kit development efforts, (-9500). Revised inflation rates, (-463).	ımptions, (-289). Real . Revised inflation rat	ign FY 1997 H' es, (-463).	TI SGF funds	s (DL69) to]	.RAS3 (DL	74) and Ab	rams (0203735A	Project D	330) to
C. Other Program Fund	FY 1995 FY 1996	6 FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	Ο,	To Compl	Total Cost
6.4 RDTE 0604710A, A Kit Li. (4)			7025	4475	0	0		,0 (19891
6.7 RDTE 0203735A, A'Kit (relatec (y)	10441 22438	38113	3600	0 18239	0 45882	0 46201		0 47992	144042 158314
WTCV G80717 M2A3 Bradley A and B Kit	0	0 25776	27149	50240	109850	120359	S	592991	926365
WTCV GA0700 M1 Abrams A and B Kit WTCV GA0750 Abrams Upgrade A and B Kit	0 0	0 0 0 22973	0 106721	0 106140	28423 94069	68032 88580	1 2	141705 253045	238160 671528
The 0203735A program element funds the "A" kit portion of the HTI SGF development, and is broken into the M2A3 Bradley Fighting Vehicle System and the M1 Abrams Tank. WTCV funds the production tails for A and B kit production for these platforms.	portion of the HTI SGI B kit production for th	F development, ese platforms.	and is broke	n into the M	2A3 Bradley	/ Fighting V	'ehicle System aı	nd the M1	Abrams
D. Schedule Profile	FY 1995	Ţ	FY 1996		FY 1997	7.6			

D. Schedule Profile		FY 199	995			FY 1996	966			FY	FY 1997	
	_	2	Э	4	_	7	3	4	-	7	ю	4
Preliminary Design Review (PDR) Critical Design Review (CDR) Initiate Technical Testing	*		*					×				
Initiate Operational Testing										×		
Project DL69					Page.	Page 3 of 15 Pages	ages					Exhibit R-2 (PE 0604710A)





	DATE March 1996	PROJECT ns - Engineering DL69		Exhibit R-2 (PE 0604710A)
UNCLASSIFIED	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ND TITLE A Night Vision Sysnent	FY 1996 FY 1997 X X X X X X X X X X X X X	Page 4 of 15 Pages
1	T ITEM JUSTIFICAT	ing Development	FY 1995 1 2 3 4 X*	
	RDT&E BUDGE	BUDGET ACTIVITY 5 Engineering and Manufacturing Development	b. Schedule Profile Special In-Process Review (SIPR) Low, Rate, Initial Production M2A3 Prototype Image Demonstration B Kit/I BAS Initial Qualification MIA2 sight Qualification *Milestone Completed	Project DL69

RDT&E PRO RAM " EMENT/PROJECT		OST BF	REAKDO	COST BREAKDOWN (R-3)	<u> </u>	DATE March	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604710A Nigh Development	AND TITLE A Night \ ment	/ision Sys	PE NUMBER AND TITLE 0604710A Night Vision Systems - Engineering Development	gineering	PROJECT DL69	CT.
A. Project Cost Breake vn Primary Hardware Develop nent	FY 1995 20268	<u>FY 1996</u> 25872	<u>Y 1996</u> 25872	FY 1997 11443				
Contractor Engineering Support Government Engineering Support Project Management Support	2778 405 950	_	1543 457	1539 461				
Spaces are a secondary of the secondary	24401	28	80 632 28584	13443				
B. Budget Acquisition History and Planning Information								
Organiz								
Contractor or Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity Vehicle Date EAC	Project Office <u>EAC</u>	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budg Com	Budget to <u>Complete</u> Pr	Total Program
Sevelopment Organizations lity Various	3876	2926	950	0	0		0	3876
Contracts 1994 Texas Instruments, C/CPAF 7 July 68195 McKinnev TX 1994	68195	7856	20268	25872	11443		2756	68195
ınagı		451	405	457	461		412	2186
ASARC Support MIPR CECOM NVESD MIPR Test and Evaluation Organizations: None		2496	2778	1543	1539		981	9337
* All DT and OT are funded by PEO ASM in the platform funding line. All tests are at the vehicle level	e. All tests a	are at the veh	icle level					
Project DI 69	Pag	Page 5 of 15 Pages	zes		Exh	Exhibit R-3 (PE 0604710A)	710A)	
		777						





RDT&E PROGRAM ELEMENT/PROJEC	PROJECT COST BREAKDOWN (R-3)	REAKDO	WN (R-	3)	DATE March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604710A Nigh: Development	AND TITLE M Night ment	Vision Sy	DE NUMBER AND TITLE 0604710A Night Vision Systems - Engineering Development	gineering	PROJECT DL69
Government Furnished Property: None						
	Total					
And the second of the second o	Prior to				Budget to	
	FY 1995	FY 1995	FY 1996	FY 1997	Complete	te Program
Subtotal Funds not available for execution Subtotal Product Development	13979	21218	25872	11443	2756	(
Subtotal Support and Management		3183	2000	2000	561	1744
Survivial Total Project	13979	24401	28584	13443	3317	7 83724
•						
7.74 7.45 7.45 7.45 7.45 7.45 7.45 7.45						
© Cathorina Marketing (Cathorina Cathorina Ca						
Project DL69	Page 6 of 15 Pages	zes		Exhit	Exhibit R-3 (PE 0604710A)	A)
	t					

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA.	TION SH	HEET (R	IIFICATION SHEET (R-2 Exhibit)	oit)		DAIE	March 1996	9
вирсет астіліту 5 - Engineering a 1 Manufacturing Development	Developm	ent	PE NI 060 Dev	PE NUMBER AND TITLE 0604710A Nigh's Development	ntle light Visi nt	on Syste	ENUMBER AND TITLE 0604710A Night Vision Systems - Engineering Development	ineering		PROJECT DL70
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DL70 Night Vision Devices Engineering Development	16761	10029	12482	11304	16256	17952	28876	0	0 Continuing Continuing	Continuing

vision electro-optics, thermal and laser systems, and systems integration of related multi sensor suites to enable near to long range target acquisition and engagement as well synergism of existing UAV sensors to include Synthetic Aperture Radar (SAR), Infrared Line Scanner (IRLS), FLIR, visible imageries, hyperspectral cameras and Moving A. Mission Description and Budget Item Justification - Night Vision Devices Engineering Development: This project develops and improves high performance night as improve battlefield command and control in "around the clock" combat operations. Near term systems in development are: Thermal Weapon Sight (TWS) Pre-planned threat, can be used as a covert illuminator and fire direction pointer. Near term and far term Pre-Planned Product Improvements (P3I) are scheduled for this system. The meters and will process target location data for export through a digital interface. Unmanned Aerial Vehicle (UAV) multisensor programs will operationally evaluate the WS a forward looking infrared (FLIR) used for surveillance and fire control with individual and crew served weapons. The TWS with P3I Designator/Rangefinder (LLD/R) - a day/night manportable laser designator/rangefinder capable of designating vehicle targets out to 5km and ranging targets out to 9995 Product Improvements (PS) WS a forward looking infrared (FLIR) used for surveillance and tire control with individual and crew served weapons. The 1 ws with related part of the Land Warries of System (TAS) an active/passive day/night sight for individual soldiers to detect Optical and Electro Optical are a part of the Land Warries of System (TAS). Target Indicator (MTI) radars. Elements of the evaluation include sensors, automatic target recognition (ATR) where applicable, commonalty of sensor specific ground near term P3I will reduce system weight. The Far term P3I will increase range, add range determination, compass/vertical angle measurement, multispectral capability, Global Positioning System interface, video display, and full digital battlefield capability. Driver's Vision Enhancer (DVE) - a thermal imaging device used for driving Combat, Combat Service, and Combat Service Support vehicles and allows drivers to see obstacles through fog and battlefield obscurants. Lightweight Laser station hardware and data interconnects.

Unmanned Aerial Vehicle Multi Sensor payload) were based on competitively awarded cost plus incentive fee contracts. The exception being the LLDR which uses a Acquisition Strategy: The several programs under development in this line (i.e. Thermal Weapon Sight, Target Acquisition System, Driver's View Enhancer and competitively awarded cost sharing type contract.

FY 1995 Accomplishments:

- 2310 Completed testing of TAS
- 8896 Fabricated E&MD prototypes for DVE; began and completed testing
 - 1556 Initiated E&MD effort for LLD/R
- 900 Developed P3I Laser Rangefinder (LRF) for TWS
 - 3099 Provided support to Land Warrior program

otal 16761

Project DL70

711

Page 7 of 15 Pages

Exhibit R-2 (PE 0604710A)





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KDI&E BUDGE! HEM JUSTIFICATION SHEET (N-2 EXIIIDIN	SILLICATION	N SHEE!	R-2 EXIIIDIL)	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	nent	PE NUMBER AND TITLE 0604710A Nigh	PE NUMBER AND TITLE 0604710A Night Vision Systems - Engineering		PROJECT DL70
		Development	ent		
FY 1996 Planned Program:					
3303 Develop and fabricate E&MD prototypes for Near Term TAS P31	for Near Term TA	S P31			
					•
 1168 Begin development for DVE P31 prototypes 1266 Continue development of LLDR EMD model 	oes Odel				
SBIR/STTR Reduction not available for execution Description and available for execution	execution				
FY 1997 Planned Program:					
	TAS P3I				
428 Frovide Support to Land Wattion programs					
	ration and Demons	stration			
Total 12482					
	1006	2001 XI	EV 1007		
B. Project Change Summary Previous President's Budget (FY 1996)	FY 1995 17879	10310	12904		
Appropriated Amount (FY 1995)	17516				
Adjustment to FY 1995	-755	00101			
Appropriated Amount (FY 1996) Adjustment to FY 1096		-101			
Adjustments to Budget Year (FY 1997) since			-422		
FY 1996 President's Budget		0000	70707		
Current President's Budget Submit	10/01	67001	12482		
The complete configuration of					·
Project DL70	Pag	Page 8 of 15 Pages	Exhil	Exhibit R-2 (PE 0604710A)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	CATION SH	EET (R-	2 Exhib	Ē	DATE	March 1996	60
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUN 0604 Deve	PE NUMBER AND TITLE 0604710A Nigh Development	TE ght Visio	n Systei	PE NUMBER AND TITLE 0604710A Night Vision Systems - Engineering Development		PROJECT DL.70
Change Summary Explanation: Funding: FY 95 FFREC/CAS Rescission (-100) FY 95 TFXXI Reprogramming to 0604817/D482 (-355) FY 95 TFXXI Reprogramming to 0604270/DL18 to fully fund the Shortstop FY 95 contract increment (-300) FY 90 economic assumptions, (-101) FY 90 economic assumptions, (-101) FY 90 FY 97 R Aflation rates, (-422). Schedule: None Schedule: None Technica: The Laser C ar Measure System (LCMS) has been restructured and down scoped to the Target Acquisition System (TAS).	nd the Shortstop Feer restructured and	Y 95 contrac	t increment d to the Tar	(-300) get Acquisi	ion System (TAS).		
g Summary FY 1995 EV 00 OPA2 79810	FY 1996 FY 1997 82454 111872	FY 1998 90487	FY 1999 66906	FY 2000 150342	<u>FY 2001</u> 173279	To Compl Continue	Total Cost Continue
-	FY 1 2	FY 1996 2 3	1	FY 1997 2 3	<i>7</i> 3 4		
TWS Limited Production decision TWS Limited Production award Initiate TWS user test (IOTE)		×					
TWS Milestone III Production decision TWS Production award TAS Limited Production decision			×	×			-
*X	**						
test (1978) X* Aduction decision for	**						
duction award	**						
(br VS version) Initiate DVE Enhancements Initiate DVE Enhancements DT/OT	× ×						
Initiate TAS P31 Demonstrator Initiate TAS P31 User Evaluation	ţ. X				×		
Project DL70	Page 9 of 15 Pages	5 Pages			Exhibit R-2 (PE 0604710A)	0604710A)	
	766						





PDT&F BUIDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604710A Night Vision Systems - Engineering Development	PROJECT PROJECT DL70
D. Schedule Profile 1 2 3 4 1	Fr 1990 Fr 1997 2 3 4 1 2 3 4	
	X	
Conduct UAV Multisensor Evaluation	<	
*Milestone Completed		
1977年の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の		
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	Page 10 of 15 Pages	Exhibit R-2 (PE 0604710A)
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RDT	RDT&E PROGRAM ELEMENT/P	RAM ELE	EMENT/PRO	JECT (ROJECT COST BREAKDOWN (R-3)	EAKDO	WN (R-	(1)	DATE March	March 1996	
вирсет Астіvіту 5 - Engineering and Manufacturing Development	and Manuf	acturing D	evelopment		PE NUMBER AND TITLE 0604710A Nigh Development	AND TITLE A Night \ ment	/ision Sys	PE NUMBER AND TITLE 0604710A Night Vision Systems - Engineering Development	gineering	PROJECT DL70	5
A. Project Cost Breakdown	<u>akdown</u>			FY 1995	FY 1996	966	FY 1997				· u
Primary Hardware Development	evelopment			11803	4	4760	6326				
Contractor Engineering Support	ng Support			686		1331	1319				
Government Engineering Support	ring Support Support			1859		1635 1580	2172				
Test and Evaluation	a rodding			970		480	1590				
FFRDC/CAS Rescission Revised economic assumption not available for execution	ion sumption not av	ailable for exec	cution	100		29					
SBIN/S11K reduction Total	CLIOII IIO, AVAIIADIE I	or execution		16761	10	10029	12482				·
B. Budget Acquisition History and Planning Information	on History and	Planning Infe	ormation								
Performing Organizations	zations										
Contractor or	Contract										
Government	Method/Type	Award or	Performing	Project Office	Total Prior to				Rudaet to		Total
Activity	Vehicle	Oungation <u>Date</u>	EAC	EAC	FY 1995	FY 1995	FY 1996	FY 1997	Complete Complete	Pro	Program
Product Development Organizations	nt Organizatio	IIS	42400	00777	40650	1040	<	C		•	42,400
Flughtes All Clair Co., El Segundo,		3	06474	12430	0000	2					06474
Lockheed-Sanders,	C/CPIF	Feb 92	18769	18769	17067	1702				0 1	18769
Nashua, NH Magnavox,	C/CPIF	Aug 93	8321	8321	4571	3000	250	500		0	8321
Mahwah, NJ Texas Instruments,	C/CPIF	Aug 93	11524	11524	6902	3705	250	200		0 1	11524
McKinney, TX TBS (TAS P3I)	C/CPIF	3Q96				0	2591	3826	Cont	Continue Con	Continue
Litton Laser,	C/Cost Share	Aug 95				1556	1000	0		0	2556
Project DL70				Page	Page 11 of 15 Pages	ies		Exhik	Exhibit R-3 (PE 0604710A)	710A)	





POTRE PROGRAM EI EMENT/PROJECT	COST BREAKDOWN (R-3)	REAKDO	WN (R-	E	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		AND TITLE OA Night oment	Vision Sys	Development	gineering	E O	PROJECT DL70
Contractor or Contract Government Method/Type Award or Performing Project Performing or Funding Obligation Activity Office Activity Vehicle Date EAC EAC TBS (UAV) C/CPIF 1096 multisensor)	Total Prior to FY 1995	FY 1995	<u>FY 1996</u> 2000	<u>FX 1997</u> 1500	<u> </u>	Budget to Complete Continue	Total <u>Program</u> Continue
Support and Management Organizations Project Mgmt CECOM NVESD MIPR Other Support FERDC/CAS	1163 3726 1341	1040 1859 989 100	852 653 75	966 976 90	000	Continue Continue Continue	Continue Continue Continue 100
Test and Evaluation Organizations OPTEC MIPR Other Government MIPR Agency	2769	970	480	1590	00	Continue	Continue
Government Furnished Property: None Subtotal Funds not available for execution Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	69357 6230 2769 78356	. 11803 3988 970 16761	243 6091 1580 2115 10029	6326 1756 4400 12482	0000	Continue Continue Continue Continue	Continue Continue Continue
Froject DL70	Page 12 of 15 Pages	sas		Exhir	Exhibit R-3 (PE 0604710A)	34710A)	

RDT&E BUDGET ITEM JUST	EM JUS		TION SI	HEET (R	FICATION SHEET (R-2 Exhibit)	bit)		DATE M	March 1996	96
BUDGET ACTIVITY 5 - Engineering ar	Developm	ent	PE N 06(Dev	PE NUMBER AND TITLE 0604710A Nigh Development	PE NUMBER AND TITLE 0604710A Night Vision Systems - Engineering Development	on Syste	ms - Enç	jineering		PROJECT
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DL74 Long Range Advanced Scout Surveillance System (LPAS3)	0	0	7712	7025	4475	0	0	0	0	19891
A. Mission Description and Budget Item Justification. Project DL74 - Long Range Advanced Scout Surveillance System (LRAS3): This project will develop the Long Range Advanced Scout Surveillance System (LRAS3), which is a long range multi sensor system for US Army scouts which will provide the capability to detect, recognize, identify, range and designate potential targets. Currently, US Army scouts do not have the necessary equipment to perform these functions "around the clock" in adverse weather and through battlefield obscurants	cation Proje (LRAS3), wh argets. Curred	ct DL74 - L ich is a long ntly, US Ar scouts to fu	ong Range g range mult ny scouts dc action "arou	Advanced S is sensor system on thave the order of the clock?	scout Surveii em for US Ai e necessary e in adverse	llance Systermy scouts wadipment to	m (LRAS3) thich will pr perform the through batt	: This proje ovide the ca se functions lefield obscu	ct will developability to describe the factorial transfer the described the factorial transfer the factorial transfer the factorial transfer transf	op the etect, : clock".
Acquisition Strategy: This project will pursue a competitive acquisition utilizing best value source selection procedures for the Engineering and Manufacturing Development contract.	mpetitive acç	uisition util	izing best va	alue source s	election proc	edures for th	le Engineeri	ng and Manı	ufacturing	
FY 1995 Accomplishments: Program not funded in FY 1995	in FY 1995									
FY 1996 Planned Program: Program not funded in FY 1996	in FY 1996									
FY 1997 Planned Program: 100 Milestone I/II IPR 335 Conduct Source Selection Evaluation Board 7277 Award E&MD contract for LRAS3 Total 7712	valuation Boa .RAS3	rd for LRAS3	83							
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Ainount (FY 1995) Adjustment to FY 1995 Adjustment to FY 1906		FY 1995 0		FY 1996 0	FY 1997 2985					
Adjustments to Budget Year (FY 1997) since FY 1006 President's Budget					4727					
Current President's Budget Submit			0	0	7712					
Project DL74			Page 13 o	Page 13 of 15 Pages			Exhib	Exhibit R-2 (PE 0604710A)	0604710A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TEM JUSTIF	-ICATIO	N SHEET (R-2 Exhik	it)	DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Development		PE NUMBER AND TITLE 0604710A Nigh Development	ो गागट Night Visid ent	on Systen	PE NUMBER AND TITLE 0604710A Night Vision Systems - Engineering Development		PROJECT DL74
Change Summary Explanation:								
Funding: Realign FY 1997 HTI SGF funds (DL69) to LRAS3 (DL74) and Abrams (0203735A Project D330) to support A Kit development efforts. (+5000). Revised inflation_rates (-273).	ls (DL69) to LRA9	S3 (DL74) an	d Abrams (02037	35A Project D.	330) to suppo	rt A Kit developme	ant efforts. (+50	.(00)
C. Other Program Funding Summary							To	Total
			EX	FY	FY 2000	FY 2001	Compl	Continue
0603774A D131 Budget Activity 4 6.4 RDTE 0604710A, B Kit (DL69)	3145 24401	28584	2829 3131 13443 3117		3334 0) 0	Collega	85097
LRAS-3 K38300 OPA2	0	0	0 0	18239	45882	46201	47992	158314
D. Schedule Profile Control of the C	FY 1995		FY 1996		FY 1997			
(5) 31 (5) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	2 3	4 1	2 3	4 1	3	4		
Milestone //II IPR E&MD Contract Award 11					< ×			
PDR stress					×	>		
CURST and Constitution of the constitution of						<		
Project DL74		Pag	Page 14 of 15 Pages_			Exhibit R-2 (F	Exhibit R-2 (PE 0604710A)	
			791					

RDT&E PROGRAM ELEMENT/PRO.	JECT 0	SOST BE	REAKDO	ROJECT COST BREAKDOWN (R-3)		DATE M	March 1996	.
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604710A Nigh Development	AND TITLE A Night ment	Vision Sys	pe number and title 0604710A Night Vision Systems - Engineering Development	gineering	<u>a</u> 0	PROJECT DL74
A. Project Cost Breakdown Primary Hardware Development Project Management Support Government Engineering Support Total B. Budget Acquisition History and Planning Information	FY 1995	FY 1996	966	EY 1997 7277 335 100 7712				
Award or Performing Obligation Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997		Budget to Complete	Total Program
Product Development Organizations TBS C/CPIF 3Q97			0	0	7277		9167	16444
Support and Management Organizations Project Mgmt CECOM NVESD MIPR			0 0	0 0	335 100		664 1425	999 1525
Test and Evaluation Organizations OPTEC MIPR			0	0	0	0	650	029
Government Furnished Property: None								
Subtotal Product Development Subtotal Support and Management					7277 435		9167	16444 2524
Subtotal Test and Evaluation Total Project					0 7712		650 11906	650 19618
	É	~ U 313~ 31			14 A	Evhihit D 2 (DE 0604740A)	S04740A)	
Project DL74	rag	rage 13 0/ 13 rages	ses.		LAIM	חוו איט (דבי	(VOI /+000	
		78/	!				•	4





RDT&E BUDGET ITEM JUS		TIFICAL	IS NOIL	TIFICATION SHEET (R-2 Exhibit)	-2 Exhil	bit)		DATE	March 1996	9
BUDGET ACTIVITY 5. Engineering and Manufacturing Developm	Jevelopm	ıent	PE N	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	гт∟Е `ombat F	eeding, (Slothing,	and	: :	
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	23355	17472	78063	65182	63749	22625	23425		Continuing	Continuing
DC40 Unit/Organizational Equipment	1392	4106	1784	1923	1949	1526	1395		Continuing	Continuing
DL40 Clothing and Equipment	5080	2145	4955	3962	4690	3880	4824		Continuing	Continuing
D548 Military Subsistence System	844	823	808	938	1388	1766	1895		Continuing	Continuing
D667, Land Warrior Boses	496	0	48917	37616	20354	0	0		Continuing	Continuing
D668 Soldier Enhancement Program	15543	10398	21598	20743	35368	15453	15311		Continuing	Continuing

unit/organizational equipment, weapons/munitions, clothing and individual equipment, fabric shelters, field service equipment, food and food service equipment to enhance procured in three years or less. The projects in this Program Element support research efforts in the Engineering and Manufacturing Development phase of the acquisition Mission Description and Budget Item Justification: Supports Engineering and Manufacturing Development (EMD) and Non-Developmental Item (NDI) evaluation of soldier efficiency, effectiveness, lethality, sustainability and survivability. New food items and food service equipment will be developed to reduce food service logistics collective protective shelters; decontamination items; and improved space heaters to shelter and sustain the soldiers in the field and improve quality of life. The Land Warrior program will produce the first fully integrated fighting system for combat soldiers. The Soldier Enhancement Program provides "soldier items" that can be requirements for all four Services. The organizational equipment program supports development of a new generation of field device support items: small, large and strategies and are therefore correctly placed in Budget Activity 5.

Page 1 of 23 Pages

Exhibit R-2 (PE 0604713A)

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA.	FION SE	FIFICATION SHEET (R-2 Exhibit)	-2 Exhi	oit)		DAIE	March 1996	9
вирсет Астіміту 5 - Engineering and Manufacturing Development	Jevelopm	ent	PE NO 060	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	ा⊤∟E combat Fo	eeding, (Slothing,	and	a ()	РРОЈЕСТ DC40
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DC40 Unit/Organizational Equipment	1392	4106	1784	1923	1949	1526	1395		Continuing	Continuing

Improved maintenance tents will ensure continuous operation and combat readiness of helicopters and vehicles. The Family of Space Heaters uses fuel more efficiently and A. <u>Mission Description and Budget Item Justification</u>: Develop and field soft shelters, showers, latrines and heaters to improve unit sustainability and combat effectiveness. The Force Provider package of tents, laundries, showers, and latrines support improved soldier quality of life as well as humanitarian aid and disaster relief. replaces dangerous tent heaters.

Acquisition Strategy: Developments transition to either Defense Logistics Agency for procurement or purchased with OMA.

FY 1995 Accomplishments:

- Completed redesign of the Modular General Purpose Tent System (MGPTS) to provide support options and interchangeability components for increased flexibility and conducted combined Preproduction Qualification Test/Operational Test (PPQT/OT).
 - Completed comparison testing of the frame and airbeam versions of the Transportable Helicopter Enclosure (THE) to determine feasibility and effectiveress of support systems for front line maintenance shelters. 228
 - Fabricate: test prototypes and completed PPQT of the Space Heater Convective (SHC) to provide safe, efficient and clean heaters in a field envⁱronment. 267
 - Total 1392

FY 1996 Planned Program:

- Complete testing and Type Classify latrines and batch laundry as part of the Force Provider pre-planned product improvement (P3I) designed to provide rest and refit facilities in an austere environment.
 - Complete PPQT and Type Classify the SHC to increase safety, reliability and efficiency of field heaters.
 - 45 Complete development and Type Classify the MGPTS.
- Initiate fabrication of second generation Laundry and Drycleaning System (LADS) prototypes for Technical Testing and Operational Testing (TT/OT) to minimize water requirements for field laundries. 643
- 91 SBIR/STTR
- 12 Revised Economic Assumption not available for execution

Total 410

Project DC40

Page 2 of 23 Pages

Exhibit R-2 (PE 0604713A)

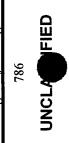




				1			Q	DATE		
RDT&E BUDGET ITEM JUS	EM JUST	IFICAT	ION SH	EET (R	TIFICATION SHEET (R-2 Exhibit)	it)			March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	evelopme	ent	PE NUN 0604 Equi	PE NUMBER AND TITLE 0604713A Com Equipment	rle ombat Fe	eding, C	PENUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	pu	PR D(РРОЈЕСТ DC40
 FY 1997 Planned Program: 1784 Complete fabrication of second generation LADS prototypes and conduct TT/OT of LADS. Total 1784 	nd generation I	ADS proto	types and co	nduct TT/O	T of LADS.					
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995)		FY 1995 1422 1393	FY	<u>FY 1996</u> 4220	FY 1997 848					
1995 t (FY 19 1996 t Year (966	.	7	4147 -41	006					
President's Budget Current President's Budget Submit		1392		4106	1748					
C. Other Program Funding Summary RDTE, 0603747.DCO9, Unit/Org Equipment OPA3, M80200, Force Provider	FY 1995 1929 10664	FY 1996 2180 11892	<u>FY 1997</u> 1316 11661	FY 1998 2797 11784	FY 1999 1869 23625 5453	FY 2000 1527 23601 8409	FY 2001 1486 23151 6880		To Cont Cont Cont	Total Cost Cont Cont
De Schedule Profile	FY 1995 2 3	4	F)	FY 1996 2 3	4	FY 1997 2 3	7 4			
Completed PPQT of Space Heater Convective Conduct TT for Force Provider P31		*			×					
(Jaundry and Jatrines) Conduct TT/OT of LADS TC Modular General Purpose Tent				×			×			
System TO Space Heater Convective * Completed Milestones					×					
Project DC40			Page 3 of 23 Pages	3 Pages			Exhibit	R-2 (PE (Exhibit R-2 (PE 0604713A)	

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BRE	AKDO	WN (R-3) DATE	TE March 1996	96
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604713A Com Equipment	S TITLE Comba	t Feeding	ס דודוב Combat Feeding, Clothing, and t		PROJECT DC40
 A. Project Cost Breakdown Primary Hardware Development Total B. Budget Acquisition History and Planning Information 	EY 1996 4106 4106		FY 1997 1784 1784			
Performing Organizations Contract Government Method/Type Award or Performing Project Performing or Funding Obligation Activity Office Activity Vehicle Date EAC* EAC*	Total Prior to FY 1995 F	FY 1995	FY 1996	FY 1997	Budget to Complete	Total Program
Product Development Organizations SSCOM In-House Acumen Various Foster Miller	4404	298	122 8 2000	491 800	Cont	Cont
Tech Rsch Grp Hunter Mfg GTS ARO MIPR OGA		29				
Support and Management Organizations SSCOM	770	145	378	71	Cont	Cont
TECOM/ATC MIPR CRTC WSMR	2395	256	200	422	Cont	Cont
* DC40 Program line is ongoing in nature, and is made up of multiple projects which are on separate project schedules, as a result the EAC is not applicable. Government Furnished Preperty: None	vhich are on sepa	rate projec	t schedules,	as a result the EAC	t is not applicable.	

Project DC40



Page 4 of 23 Pages

Exhibit R-3 (PE 0604713A)



RDT&E PROGRAM ELEMENT/PROJECT	COST BREAKDOWN (R-3)	REAKDO	WN (R-	3)	DATE	March 1996	6
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604713A Com Equipment	AND TITLE SA Comba	at Feeding	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	, and	ā 0	PROJECT DC40
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	Total Prior to <u>FY 1995</u> 4404 770 2395 7569	FY 1995 991 145 256 1392	FY 1996 3228 378 500 4106	FY 1997 1291 71 422 1784		Budget to Complete Cont Cont Cont Cont	Total Program Cont Cont Cont Cont

Project DC40	Page 5 of 23 Pages	žes		Exhi	bit R-3 (P	Exhibit R-3 (PE 0604713A)	
	787						

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA.	TION S	TIFICATION SHEET (R-2 Exhibit)	2 Exhil	bit)	Δ	DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	evelopm	ent	PE NI 060 Eq.	PE NUMBER AND TITLE 0604713A Com Equipment	пт <u>г</u> е Sombat F	eeding, (E NUMBER AND TITLE 3604713A Combat Feeding, Clothing, and Equipment	pua	a. L.	PROJECT DL40
COST 'In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DL40 Clothing and Equipment	5080	2145	4955	3962	4690	3880	4824		Continuing	Continuing Continuing

A. Mission Description and Budget Item Justification: Develop state-of-the-art individual clothing and equipment to improve the effectiveness, sustainability and quality of life of the individual soldier. Funding shown in FY 1996-FY 1998 reflects transfer of funds from DL40 to OSD PE 0604384BP to support the Chemical/Biological Defense program in accordance with Public Law 103-60 Title XVII. Acquisition Strategy: Soldier Modernization will be accomplished via integrated acquisition programs embodying procurement approaches ranging from NDI/modified NDI through integrated programs such as Land Warrior, Mounted Warrior, and Air Warrior. Acquisition strategies will vary from: 1) quick fixes in 36 months or less from concept to Type Classification (TC) such as Soldier Enhancement Programs (SEP), 2) modular improvements which require limited RDT&E and can be completed in more than 36 months from concept to TC, 13) more technically challenging areas of integration and digitization in the Land Warrior program.

FY 1995 Accomplishments:

21/8 Condu	21/8	21/8 Conducted market curvey developed initial decime concents conducted technical and early near evaluations and/or downcolooked
	0110	Conduction market satively, developed initial design contection conducted feculinear and uses evaluations and of downselected
		designs/materials/equipment in design review: Improved Toxicological Agent Protective (TAP) Suit, Personal Ice Cooling System (PICS), Interim
		Firefighters Suit - Combat, Improved Sun, Wind & Dust Goggles, Body Armor Set Individual Countermine (BASIC) P3I, Modular Body Armor
		(MBA), Modular Load System (MLS), and Auxiliary Aviation Lighting Devices.
•	1505	1505 Procured test items and initiated DT/OT: Joint Service Lightweight Integrated Suit Technology (JSLIST) Ensemble (chemical protective suits, boots
		and gloves), Women's Dress Skirt, Small Arms Overvest (urgent Army requirement), and Vapor Barrior Boot P31.
•	42.7	4.2.7 Completed DT/OT and assessment reports, type classified, and/or completed Technical Data Package and transitioned to production. Women's Dress

Ensemble, Maternity Uniform, Ballistic/Laser Eye Protection Spectacle P3I, and Special Protective Eyewear, Cylindrical System.

5080

Total

•	264 R	Refine requirements based upon Operation Joint Endeavor threat, conduct Design Review, finalize component designs, award contract for DT/OT
		prototypes for BASIC P31.
•	887	887 Conduct mini-test #2 and Design Review, award test item contract, start DT/OT for the Improved TAP Suit.

855 Form Integrated Product Team (IP conference with draft Request for F		ict Team (IPT) for MBA and MLS, complete Acquisition Strategy for one contract for both systems, conduct pre-proposal	conference with draft Request for Proposal (RFP), receive proposals and complete Source Selection.	initiote evoluation of the Ontional Huiform Rabric
855)	Form Integrated Product Team (IPT	conference with draft Request for Pl	19 Drouge test items and initiate evaluation
		855		88
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Project DL40



Page 6 of 23 Pages

Exhibit R-2 (PE 0604713A)



SOURCE SOURCE BUDGET ITEM JUS	STIFICATION SHEET (R-2 Exhibit)	ION SH	EET (R-	2 Exhib	Ē		DATE March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	ment	PE NUM 0604 Equi	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	TE mbat Fe	eding, C	lothing,		PROJECT
 FY 1996 Planned Program: (continued) AS SBIR/STTR Revised Economic Assumption not available for execution Total 2145 Total 2145 Complete DT/OT, complete assessment reports, obtain MS III approval, transition TDP to DPSC for the BASIC P3I. Award single RTDE contract for MBA and MLS, evaluate up to 3 competing designs in Customer Evaluation and lab testing (including heat stress profile), using Expert Choice model, downselect to single or hybrid design for DT/OT test items. Finish evaluation and make decision on the Optional Uniform Fabric. Procure priototypes, conduct feasibility evaluation, modify patterns and size tariff, complete technical data and forward to procurement center for Integrated Sizing of the Battledress Uniform. 	ilable for executi eports, obtain M is, obtain MS III and MLS, evaluand wnselect to sing the Optional Un evaluation, modi form.	on (S III approv approval, tra ate up to 3 cc le or hybrid (iiform Fabric fy patterns a	al, transition ansition to pr ompeting des design for D' 	TDP to DP ocurement igns in Cust IVOT test its I'VOT test its ; complete t	SC for the B for the ITAF tomer Evaluems.	3ASIC P31. original and la ation and forwa	b testing (including hea	t stress sr for
oject C us Pres priated justmen priated	FY 1995 6050 5924 -844	FY		FY 1997 3726				
Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current President's Budget Submit	5080		2145	1229				
C. Other Program Funding Summary: FY 1995 RDTE, 0603747.D669, Clothing & Equipment 2013	95 FY 1996 13 3415	FY 1997 3418	FY 1998 3590	FY 1999 3650	FY 2000 4444	FY 2001 3920	To Compl Cont	Total Cost Cont
RD1E, 0004384BP.L40, JSLIS1 RDTE, 0603884BP.IP4, Individual Protection OPA3, MA0400, Protective Clothing OMA, 114092000, Central Funding and Fielding 65465	δ.	1937 19677 56339	5768 35297 43104	9049 39469 54841	6823 40515 80248	10648 31487 82820	Cont Cont Cont	Cont
Project DL40		Page 7 of 23 Pages	3 Pages			Exhibi	Exhibit R-2 (PE 0604713A)	
		780						

RDT&E BUDGET	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION	I SHEET (R-2 Ex	hibit)	DATE March 1996	9661
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ng Development		PE NUMBER AND TITLE 0604713A Combat Fauipment	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	, and	PROJECT DL40
D. Schedule Profile	FY 1995		FY 1996	FY 1997		
	1 2 3 4		2 3 4	1 2 3 4		
Conducted Market Surveys: TTAP PICS, Interim Firefighters Suit-Combat, Improved Sun, Wind & Dust Goggles, BASIC P31, Modular Body Armor, Modular 1004 Rearing Squinment and	**					
Auxiliary Aviation Lighting Devices Conduct Marke: Surveys/Design Reviews: Modular Body Armor, and Modular		×				
Load Bearing Equipment Conduct Market Surveys/Design Reviews: Advanced Combat/Garrison Uniform,			×			
Extreme Cold Weather Clothing System Undergarments						
Develop initial design concepts for the Lightweight Microclimate Cooling				×		
System Procure test items/initiate DT/OT: Modular Body Armor and Mogar				×		
* Completed Milestones						
Project DL40		Page	Page 8 of 23 Pages	Exhi	Exhibit R-2 (PE 0604713A)	3A)
			190			





RDT&E PROGRAM ELEMENT/PR	OJECT C	ROJECT COST BREAKDOWN (R-3)	DOWN (R-3)	DATE March 1996
ВИОЗЕТ АСТІМІТУ 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604713A Com Equipment	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	PROJECT Ing, and DL40
	FY 1995 5082 5082	EY 1996 2145 2145	FY 1997 4955 4995	
Project DL40	Pagi	Page 9 of 23 Pages		Exhibit R-3 (PE 0604713A)
		701		

	RDT&E BUDGET ITEM JUST	EM JUS	TIFICA	IIFICATION SHEET (R-2 Exhibit)	HEET (R	2-2 Exhi	bit)		DATE N	March 1996	6
BYDSET ACTIVITY 5 - Engineering	BUDDET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PE NU 060 Eqt	PE NUMBER AND TITLE 0604713A Com Equipment	пте Sombat F	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	Slothing,	and	a O	РRОЈЕСТ D548
	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D548 Military Subsistence System	ance System	844	823	808	938	1388	1766	1895		Continuing	Continuing
A. Mission Description and Bude food service equipment to enhance requirements for all four services. Operation and Support costs of subhumanitarian missions and operatic requirements. Program is reviewed Program.	L L sister ons-o	ation: Engir / and survive foint Service m for service m ur. Improve //ice annually	neering and ability. New Food/Food en & wome equipment to by the Dol	Manufacturii food items Service Equ n. Develop o enhance sa) Food and N	ng Developu and food ser ipment to ir multi-fuel, r afety in food vutrition Res	nent (EMD) vice equipm nprove indiv apidly deplo service, util	and Non-De ient will be c idual comba yable field f ize battlefiel ngineering E	velopmenta leveloped to t effectivene ood service d fuels and o	al Item (NDI reduce foocess and reduce equipment thecrease fue to the Joint	em Justification: Engineering and Manufacturing Development (EMD) and Non-Developmental Item (NDI) evaluation of food or efficiency and survivability. New food items and food service equipment will be developed to reduce food service logistics ropment of Joint Service Food/Food Service Equipment to improve individual combat effectiveness and reduce logistics burden are support for service men & women. Develop multi-fuel, rapidly deployable field food service equipment to support combat, ther-than-war. Improve equipment to enhance safety in food service, utilize battlefield fuels and decrease fuel and water validated twice annually by the DoD Food and Nutrition Research and Engineering Board as part of the Joint Service DoD Food	f food and tics rrden and hbat, Food
Acquisition Strategy appropriation.	Acquisition Strategy: Developments transition to Defense Personnel Supply Center (DPSC) for procurement or to Other Procurement, Army depending upon procurement appropriation.	Oefense Pers	onnel Suppl	y Center (D)	PSC) for pro	curement or	to Other Pro	ocurement, A	Army depen	ding upon prc	curement
FY 1995 Accomplishments: • 242 Conduction • 191 Complete • 411 Complete Total 844	hments: Conducted technical/operational testing of a safer, more efficient and supportable, Powe Entrar used to heat and cook rations. Completed Technical Testing of the Initial Deployment Kitchen for the Air Force enhanc Completed fabrication of engineering prototype of highly mobile Containerized Kitchen.	nal testing of rations. of the Initial		ore efficient a nt Kitchen fo phly mobile C	and supportt or the Air Fo Containerize	ible, Powere rce enhancin d Kitchen.	a safer, more efficient and supportable, Powered Multifuel Burner (PMB) to replace the M2 gg Deployment Kitchen for the Air Force enhancing their force projection capability to bare base. otype of highly mobile Containerized Kitchen.	3urner (PMI projection (B) to replace capability to	a safer, more efficient and supportable, Powered Multifuel Burner (PMB) to replace the M2 gasoline Deployment Kitchen for the Air Force enhancing their force projection capability to bare base. type of highly mobile Containerized Kitchen.	line
FY 1996 Planned Program:	Complete technical/operational testing of the PMB designed to use current battlefield fuels for safer, more efficient heating. Initiate Pre-Planned Product Improvement (P3I) program to replace the battery with a thermoelectric power supply on the PMB. Conduct user testing of the Air Force Initial Deployment Kitchen and transition TDP to procurement to increase mission responsiveness and improve customer satisfaction by means of an all-electric, rapidly deployable, all-climate feeding system. Fabricate test prototypes and initiate Development Testing/Early User Test and Evaluation (DT/EUT&E) on the Containerized Kitchen to increase flexibility and efficiency of future field feeding system. SECONTR. Revised Economic Assumption not available for execution	al testing of rogram to re ir Force Initins of an alleinitiate Deve initiate field feature field feature availa	the PMB designe place the battery al Deployment K lectric, rapidly de dopment Testing/eding system.	signed to use ttery with a t ent Kitchen i Ily deployab sting/Early U n.	e current bat thermoelectr and transitio ole, all-clima Jser Test and	tlefield fuels ic power sur n TDP to pro te feeding sy I Evaluation	for safer, m pply on the P ocurement to stem. (DT/EUT&	ore efficient MB. increase mi E) on the Co	heating. In ission respon ontainerized	itiate Pre-Plan nsiveness and Kitchen to in	med improve crease



Page 10 of 23 Pages

Total 823

Project D548

Exhibit R-2 (PE 0604713A)



RDT&E BUDGET ITEM JUS		TIFICATION SHEET (R-2 Exhibit)	N SHE	ET (R-;	2 Exhib	it)		Ma	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	velopment		РЕ NUMB 06047	PE NUMBER AND TITLE 0604713A Com	LE mbat Fe	eding, C	0604713A Combat Feeding, Clothing, and	and	PRC D5	PROJECT D548
			Equipment	ment						
FY 1997 Planned Program:										
• 377 Complete P3I on the thermoelectric power supply for the PMB	ctric power suppl	y for the PN	IB Vitchen							
• 263 Complete D1/EU1&E and 19pe Classify the Contained Articles. • 169 Conduct test and evaluation of modifications to Army Field Feeding Equipment to improve performance in cold weather environments.	e Classiry the Co modifications to	mtamerized Army Field I	Nitcilell. Feeding E	quipment t	o improve p	erformance	in cold we	ther environ	ments.	
Total Control 809 COSTIENT										
	Ţ	FV 1005	FV 1006		FV 1997					
B. Froject Change Summary Previous President's Budget (FY 1996)		864	8		837					-
Appropriated Value (FY 1995)		846								
Adjustment to FY 1995		-5	(9						
Appropriated Amount (FY 1996)			∞	830						
Adjustment to FY 1996	y			•	-28					
Adjustments to Budget Year (FY 1997) since FY 1990	o				0.7					
Common Dender Dudget		844	∞	823	809					
euitent i testucin s Dudge Suomis										
C Other Drogram Funding Summary									To	Total
	FY 1995 FY	FY 1996 FY	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001		Compl	Cost
RDTE, 0603747.D610, Food Adv Dev	2091	2103	1946	2429	2774	3343	3600		Cont	Cont
OPA3, M86400, Kitchen, Containerized, Field					7700	7496	7565		Cont	Cont
OPA3, ML5325, Items Less Than \$2.0M (CSS-	4641	2152	2688	2146	2890	6502	7855		Cont	Cont
EQ) (0.04) (0.04) (0.04)										
D. Schedule Profile	FY 1995		FY 1996	966		FY 1997	71			
	2 3	4 1	5	3	4 1	2	3 4			
Complete DT/OT of Powered Multifuel			×							
Burner		**								
Kitchen (IDK)		<u> </u>								
Complete TDP of IDK					×					
Conduct DT/OT of Containerized Field						×				
Newton Development of the Property of the Prop		Page	Page 11 of 23 Pages	Pages			Exhib	Exhibit R-2 (PE 0604713A)	304713A)	
rioject D040			602							

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	PROJECT Ind D548
D. Schedule Profile 1 2 3 4 Complete P3f for Powered Multifuel Burner Type Classify Containerized Field Kitchen * Completed Milestones	FY 1996 1 2 3 4 1 2 3 4 X X X	
Project D548	Page 12 of 23 Pages Exhibit	Exhibit R-2 (PE 0604713A)



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KUIGE FI	KDI &E PROGRAM ELEMENT	LIVIEIN I/I R		ים ופסי	באונים	NIA NIA		Marc	March 1996	į
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	fanufacturing	Development		PE NUMBER AND TITLE 0604713A Com Equipment	AND TITLE A Comba	at Feeding	e number and title 0604713A Combat Feeding, Clothing, and Equipment	pu	PROJEC D548	PROJECT D548
	i i		EV 1005	EV 1006	700	EV 1007				
A. Project Cost Breakdown Primary Hardware Development Total	nt		844 844 844		823 823	608				
B. Budget Acquisition History and Planning Information	ry and Planning In	formation								
Performing Organizations Contractor or										
	Type Award or ing Obligation	Performing Activity	Project Office	Total Prior to				Bud	Budget to	Total
	<u>Date</u>	EAC	EAC	FY 1995	FY 1995	FY 1996	FY 1997	Cor	Complete	Program
SSCOM In-House	e Vonisco			4833	626	336	317		Cont	Cont
GTS various	Various				5	007	0			
ATCOM MIPR	:				35					•
Support and Management Organizations SSCOM	rganizations			321	44	40	40		Cont	Cont
Test and Evaluation Organizations	zations				ţ	Ö	Č		ć	Ţ
TECOM/ATC				1084	8/	200	727		Cont	Commen
Government Furnished Property: None	perty: None									
Subtotal Product Development				4833	722	583	517		Cont	Cont
Subtotal Support and Management	ment			321	44	40	40		Cont	Cont
Subtotal Test and Evaluation Total Project				1084	/8 844	823	809		Cont	Cont
COSTS	e anglese per per per per established esta									
Project D548			Page	Page 13 of 23 Pages	ses		Exhibit	Exhibit R-3 (PE 0604713A)	4713A)	
				202					:	

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA.	TION S	TIFICATION SHEET (R-2 Exhibit)	-2 Exhib	bit)		DATE	March 1996	9
вирсет аститу 5 - Engineering and Manufacturing Development	Developm	ent	PE N	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and	TILE Combat Fo	eeding, (Slothing,	and	<u>a</u> u	РRОЈЕСТ D667
			Eq	Equipment						
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Total Cost Complete	Total Cost
DEST 1 and Marrior	496	0	48917	37616	20354	0	0		Continuina	Continuing

enhance the soldier's battlefield capabilities through the development and integration of an assortment of Army system/components and technologies into a cohesive, timely, A. Mission Description and Budget Item Justification: Land Warrior (LW) is an integrated fighting system for dismounted combat soldiers. The LW program will and combat effective system. These systems/components include an integrated individual soldier computer/radio, enhancements to protective clothing and individual D667 Land Warrior

The GEN II S&T program has been restructured to develop advanced technology components for insertion into the LW consolidated program. An Integrated Product Team requirement deficiencies. Per Congressional direction, the Generation II Soldier (GEN II) Science and Technology (S&T) program has been merged with the LW program. Acquisition Strategy: The Paragineering and Manufacturing Development (EMD) program is designed to field currently existing/mature technologies to meet soldier (IPT) was formed to determine which technologies from the GEN II S&T program will be integrated into the LW program.

equipment, integrated headgear well helmet mounted display and image intensifier, and modular weapon system with thermal weapon sight, infrared aiming light, laser

rangefinder, digital compass, video camera, and close combat optic. LW will bring the dismounted soldier into the digital battlefield.

FY 1995 Accomplishments:

- 284 Continued development of an Advanced CVC helmet to support the MW program.
- Conducted market surveys to evaluate state-of-the-art headsets to determine the technical feasibility of cordless communications. 24
 - 188 Prepared documentation in preparation of Milestone I for Mounted/Air Warriors.

FY 1996 Planned Program: Contained in RDTE, 0603001.DJ50, Force XXI Soldier.

FY 1997 Planned Program:

- 5878 Fabricat 'W prototypes for Developmental Testing (DT)
- Condustry VDT (contractor testing and government testing) and prepare test support package. 0060
- Fix deficiencies, finalize LW hardware/software design/integration, and conduct independent verification and validation of software. 15150
- Implement LW functional plans: Integrated Logistics Support (ILS), configuration management, etc.; publish LW draft system manuals; and conduct maintenance training in preparation for the Logistics Demo. 11050
 - 3939 Program Management and government oversight of contractor effort.

FY 1997 Planned Program: (continued)

Project D667

Page 14 of 23 Pages

Exhibit R-2 (PE 0604713A)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FICATI	ON SHEET	(R-2 Exhi	bit)	DATE	E March 1996	96
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	<u> </u>	PE NUMBER AND TITLE 0604713A Com Equipment	וס דודנה Combat F it	eeding, C	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment		РRОЈЕСТ D667
• 2000 Procurement of LW test items for IOTE. Total Trans 48917							
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995 Appropriated Amount (FY 1996)	FY 1995 496 486 10	FY 1996	FY 1997 52239				
Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996			-3322				
President's Budget Current President's Budget Submit	496		48917				
C. Other Program Funding Summary FY 1995 RDTE, 0603001.DJ59, Force XXI Soldier	FY 1996 29181	FY 1997 FY 1998 16277 6324	1998 FY 1999 6324 2410	FY 2000 7180	FY 2001 9033	To Compl Cont	Total Cost Cont
RDTE, 0603747.D603. Land Warrior OPA3, M80500, Enhanced Land Warrior WTCV, GB3007, Mod Wpn Sys - M4 Carbine Mod WTCV GZ2800 Mod Wpn Sys (M16/M203)	930	2206 22 1771 36	59389 2287 2524 3616 4503	77844	93542	Cont	6156 Cont 7947 13174
D. Schedule Profile Contract Awarded	4 *	FY 1996	4	FY 1997 2 3	3 4		
Early Operational Experimentation (EOE) Hardware Preliminary Design Review (PDR) LW Software Design Review and Mock-		× ×					
ups EOE Hardware Critical Design Review (CDR)			×				
EOE Task Force XXI			×	×			
Project D667	P	Page 15 of 23 Pages	.5		Exhibit R-	Exhibit R-2 (PE 0604713A)	
		702					

197

Ž	DT&E BUDGET II	TEM JUSTIFICATIO	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 5 - Engineering	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Development	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	eding, Clothing,	PROJECT and D667
D. Schedule Profile		FY 1995	FY 1996	FY 1997 2 3 4	
LW CDR Fabricate/Deliver DT prototypes Contractor Production Qualification Test	rototypes Qualification Test)	××	
* Completed Milestones	S				
Project D667		Pay	Page 16 of 23 Pages	Exhik	Exhibit R-2 (PE 0604713A)
			000		

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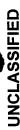
- 第一、最後的なものを表現を表現的。 ***(1) 第1 第2 第4 年 第一							ľ
RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ECT COST I	BREAKDO	OWN (R-:	3)		March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	D604713A (Fallipment	PE NUMBER AND TITLE 0604713A Comb Fauitoment	at Feeding	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Fauipment	P	PROJECT D667	F.
	dimba						
A Project Cost Breakdown	FY 1995	FY 1996	FY 1997				
System Engineering and Program Management System Test and Evaluation Prototype Development and Manufacturing Other RDTE Costs	496 496		24480 12220 6717 500 48917				
B. Budget Acquisition History and Planning Information							·
pe Award or Performing	Project Total				a d	Budget to	Total
John Activity Date EAC	EAC FY 1995	FY 1995	FY 1996	FY 1997		Pro	Program
Product Development Organizations Hughes Product Development Organizations P		244		35497		Cont	Cont
SSCOM Management Organizations		252		8170		Cont	Cont
CECOM TACOM (PM-SA) ARL Modern Tech Corp Test and Evaluation Organizations ARL-SLAD OPTEC TECOM AMSAA IV&V Contractor				5250		Cont	Cont
Draint D67	Page 17 of 23 Pages	Pages		Exhibit R	Exhibit R-3 (PE 0604713A)	1713A)	
110ject D007	6						

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RDT&E PROGRAM ELEMENT/PROJE	ROJECT COST BREAKDOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	PROJECT nd D667
Government Furnished Property: None		
	Total	Budget to Total
	FY 1995 FY 1996 F	Pro
Subtotal Product Development Subtotal Support and Legacement	244 35497 8170	Cont Cont
Subtotal Test and Evaluation Total Project	252 5250 496 48917	
California (Anna California Anna California Anna California Anna California Anna California Anna California An		
Project D667	Page 18 of 23 Pages Exhibit	Exhibit R-3 (PE 0604713A)
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	GET ITE	SUL M:	TIFICA	TION SI	HEET (R	-2 Exhil	oit)	3	DATE N	March 1996	٥
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	cturing De	velopm	ent	PE NI 060 Eqt	PE NUMBER AND TITLE 0604713A Com Equipment	пть combat F	eeding, (יּבּ אטשׁפּבּּא אט זוזנבּ 1604713A Combat Feeding, Clothing, and Equipment	put	A O	РРОЈЕСТ D668
Operate NESS Section (In Thousands)		FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D668 Soldier Enhancement Program		15543	10398	21598	20743	35368	15453	15311		Continuing Continuing	Continuing

sustainability, mobility, and survivability of the soldier through accelerated acquisition of lighter, more lethal weapons and improved "soldier items" including lighter, more comfortable load-bearing equipment, field gear, survivability items, communications equipment, and navigation aids. For SEP purposes, soldiers are managed in three A Mission Description and Budget Item Justification: The objective of the Soldier Enhancement Program (SEP) is to increase the lethality, command and control, categories: dismounted soldiers, combat crews (air and ground), and other soldiers. Projects generally take three years to complete.

technologically challenging requiring more than three years development are pursued under the appropriate system area. SEP items are reviewed and approved for Acquisition Strategy: SEP procurement consists of Non-Developmental Items (NDI) or modified NDI that can be fielded in three years or less. Items that are development in FY 1996 and begin development in FY 1997. Procurement varies by appropriation.

FY 1995 Accomplishments:

- Buttstock, .50 Caliber Multiple Purpose Round, Launched Grapnel Hook, Mounted Crewman Cold/Wet Glove, Enhanced Tactical Load Bearing Vest, Completed development/type classified: XM144 Spotting Scope, Dual Mount, M203 for M4 Carbine, Multiple Magazine Holder, M249 Collapsible Lightweight Underwear, 2nd Gen ECWCS, Improved Butt Pack, Improved Hot Weather Boot, Improved Shelter Half, Electric Tool Supply Catalog, Lightweight Video Reconnaissance System, Individual Soldier Enhanced Ration, Improved Rainsuit, and Interim Water Individual Purification
 - Continued development/procured prototypes and/or tested: Modular Weapon System, 40mm IR Illumination Round, HMMWV Mount, Surveillance Chemical/Biological Glove, Inconspicuous Body Armor, Mounted Crewman Boot, Lightweight Chemical Overgarment, Fighting Position Excavator, BDA Device, M24 Flash Suppressor/Blast Attenuator, 5.56 Dim Tracer, Miniature Binoculars, Portable Periscope, Small Unit Shower, Improved Soldier Fighting Cover, Fighting Position Revetment Kit, Monocular Night Vision Device, Lightweight Leader Computer, and 40mm Smoke Projectile. 7983
 - Began market surveys and/or development of FY 1995 new starts or redirections: Armor Crew/Infantry Protective Mask, Individual Soldier Radio, Medium Machine Gun, Machine Gun Optics, Improved Floatation Device, Individual Sandbagging Accessory, and XM84 Stun Hand Grenade II. 3082
 - Terminated: Trigger Finger Mitten, Individual Air Activated Catalytic Heater, Stun Grenade #20, and Face Paint programs. 15543

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Project D668

Page 19 of 23 Pages

Exhibit R-2 (PE 0604713A)

~	RDT&E PUDGET ITEM JUSTIFICATIO	FICATION SHEET (R-2 Exhibit)	E March 1996
BUDGET ACTIVITY 5 - Engineering	BUDGET ACTIVITY 5 - Engineering and Manu⊜cturing Development	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	PROJECT d D668
FY 1996 Planned Progra n:	ste development/type classify: 40mm tor, 5.56 Dim Tracer, Miniature Binc sion, Combat Medic Vest, Improved ter, Soldier Fighting Cover, Fighting ons. Us development/procure prototypes at II, Lightweight Chemical Overgarm market surveys and/or development: for Riot Control, Anti-Reflection Shated: Lightweight Leader Computer STTR	Pgrain: Complete development/type classify: 40mm IR Illumination Round, HMMWV Mount, Medium Machine Gun, M24 Flash Suppressor/Blast Complete development/type classify: 40mm IR Illumination Round, HMMWV Mount, Mounted Crewman Boot, Improved PASGT Helmet Suspension, Combat Medic Vest, Improved Flotation Device, Inconspicuous Body Armor, Individual Sand Bagging Accessory, Fighting Position Excavator, Soldier Fighting Cover, Fighting Position Revetment Kit, 40mm Smoke Projectile, Armor Crew/Infantry Mask, and Selectable Attack Munitions. Continue development/procure prototypes and/or test: Modular Weapon System, Surveillance BDA Device, Machine Gun Optics, XM84 Stun Hand Grenada, II, Lightweight Chemical Overgarment, Improved Chemical/Biological Glove, Enhanced Incendiary Grenade, and Individual Soldier Radio. Initiate market surveys and/or development: Commercial Boot Survey, Midsize Riot Control Dispenser, Less than Lethal 40mm Grenade, Shin/Knee Guards for Riot Control, Anti-Reflection Shields, Compression Sack, and Less than Lethal 5.56mm Cartridge. Terminated: Lightweight Leader Computer SBIR/STTR	nsh Suppressor/Blast nproved PASGT Helmet cessory, Fighting Position sk, and Selectable Attack un Optics, XM84 Stun Hand and Individual Soldier Radio. al 40mm Grenade, Shin/Knee
Total 10398 FY 1997 Planned Program	d Economic	Revised Economic Assumption not available for execution of execution of execution and execution of execution	4 Stun Hand Grenade II, Anti
• 3460 • 3282	Soldier Radio. Soldier Radio. Continue development/procure prototypes and/or test: Less than Lett Enhanced Incendiary Grenade, and Midsized Riot Control Dispenser. Approved to begin development: Heavy Sniper Weapon System, M2 Flashlight, Close Quarters Battle Sling for the M4 Carbine, Shoulder Underlying Insulating Layers for ECWCS, Alternate Wear Hot Weatlerical Content Content Rar and Physical Fitness Uniform.	Soldier Radio. Continue development/procure prototypes and/or test: Less than Lethal 40MM Grenade, Less than Lethal 5.56MM Cartridge, Compression Sack, Enhanced Incendiary Grenade, and Midsized Riot Control Dispenser. Approved to begin development: Heavy Sniper Weapon System, M249 Feed Tray Cover, M249 Flexmount, M4 Improved Buttstock, Weapon Flashlight, Close Quarters Battle Sling for the M4 Carbine, Shoulder Holster for 9mm Pistol (Left/Right Handed), Pistol Belt Extender, Improved Underlying Insulating Layers for ECWCS, Alternate Wear Hot Weather Boot, Extreme Cold Weather Boot, Ballistic/Non-Ballistic Face and Body Cartern Cun Cooler Firel Bar and Physical Fitness Uniform.	tridge, Compression Sack, ved Buttstock, Weapon I Belt Extender, Improved on-Ballistic Face and Body
• 12669 Total 21598	Initiate market urveys/development on new items, in the process of approval, to begin development in FY 1997.	process of approval, to begin development in FY 1997.	
Project D668	Pc	Page 20 of 23 Pages Exhibit R	Exhibit R-2 (PE 0604713A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	JUSTI	FICATI	ON SHE	ET (R-	2 Exhib	Œ		DATE March 1996	9661
⁄⊞∀ 9erin	lopment	4	9E NUM 0604	PE NUMBER AND TITLE 0604713A Com	ւե mbat Fe	eding, C	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Fauitment	and	PROJECT D668
Section 19 Control of the Control of			Lyan						
B. Project Change Summary. Servicins President's Budget (FV 1996)		FY 1995 15887	FY 1996 10690		$\frac{\text{FY } 1997}{10321}$				
Appropriated Amount (FY 1995)		15553							
Appropriated Amount (FY 1996)			105	10503					
Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996			ī	-105	11277				
President's Budget Gurrent President's Budget Submit		15543	103	10398	21598				
Change Summary Explanation: Funding increased to leverage "soldier items" available to begin development from industry/government initiatives, but previously unavailable to the Army due to prior funding constraints.	erage "sol	dier items"	available to	begin develo	opment fron	ı industry/g	overnment ii	nitiatives, but previ	visiy
C. Other Program Funding Summary	3001 X	2001 XI	EV 1007	EV 1000	EV 1000	EV 2000	FV 2001	To	To Total
800, Lightweight Video Reconnaissance	2210	2314	2592	3262	4004	4705	2606	O	
System OPA3, MA6800, Soldier Enhancement WTCV, GC0076, Small Arms (SEP)		2350	5845	4236	5671	18781 6573	19104 6989	00	Cont Cont
WTCV, GZ1290, Squad Automatic Weapon		1943							1943
WTCV 22300 Modified Weapons Systems	402	2751	5531	7706	7152				25879
WTCV, GB3007, Modified Weapons Systems (M4		006	2116	2181	2388				7585
Carbine) PAA, F88000 CTG Cal .50 (M904)/SLAPT OMA, 114092000, Central Funding and Fielding	65465	1018 54564	56339	336 43104	825 54841	742 80248	883 82820	00	Cont Cont Cont Cont
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		D.	Page 21 of 23 Pages	Pages			ях	Exhibit R-2 (PE 0604713A)	(A
Project Doos		I	use 21 of 22	1 4800					

803

RDT 3UDG	RDT 3UDGET ITEM JUSTIFICATION	IFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	uring Development	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	PROJECT and D668
D. Schedule Profile:	FY 1995	7 1996 3 4 1	
SEP Requirements Reviews SEP Projects Reviews *Completed Milestones		· ×	
Note: Numerous individual projects are ongoing under the Soldier		Enhancement Program (SEP) and each project has its own milestone schedule.	chedule.
,是1000年,新生产的人生,一个大学等的人生活,不是1000年,1000年,1100年,1100年,1100年,1100年,1100年,1100年,1100年,1100年,1100年,1100年,			
1			
Project D668	P	Page 22 of 23 Pages Exhil	Exhibit R-2 (PE 0604713A)

804 UNCLAMFIED



RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	JECT CO	ST BREAK	JOWN (R-3)	DATE	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	<u>я</u> 6 ш	PE NUMBER AND TITLE 0604713A Com Equipment	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	othing, and	PROJECT D668
A. Project Cost Breakdown Soldier Enhancement Program Total B. Budget Acquisition History and Planning Information: None	FY 1995 15543 15543	FY 1996 10398 10398	EY 1997 21598 21598		
				,	
Project D668	Page 23	Page 23 of 23 Pages		Exhibit R-3 (F	Exhibit R-3 (PE 0604713A)
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RDT&E BUDGET ITEM JUST	EM JUS	TIFICA-	TION SE	IEET (R	IFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	60
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Jevelopm	ent	PE NC 060 Eng	PE NUMBER AND TITLE 0604715A Non-Engineering Devening Dev	PE NUMBER AND TITLE 0604715A Non-System Tr Engineering Development	PENUMBER AND TITLE 0604715A Non-System Training Devices Engineering Development	ng Devic	- sə:		
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	47886	50878	42865	45251	39899	60715	42831		Continuing	Continuing
DC82 Louisiana Maneuvers	5720	5810	0	0	0	0	0		0	11530
DC91 Distributive interactive Simulation	3373	5972	0	0	0	0	0		0	9345
D241 Non-System Training Devices	25876	27354	29752	31390	26925	46444	28419		Continuing	Continuing
D396 Tactical Simulation (TIARA)	3376	2025	2781	3100	2295	3821	3789		Continuing	Continuing
D573 STRICOM and Naval Air Warfare Center Training Systems Division	9541	9717	10332	10761	10679	10450	10623		Continuing	Continuing

training while helping to control rapidly escalating costs. Training devices maximize the transfer of knowledge, skills and experience from the training situation to a combat Program Element supports research efforts in the engineering and manufacturing development phases of the acquisition strategy and are therefore correctly placed in Budget training at the Combat Training Centers (CTC), general military training and training on more than one item/system, as compared with system devices which are developed Combined Arms, develops simulation training devices for Army-wide use, including the CTCs. Project D396, Tactical Simulation, is an intelligence simulation/driver for realistic collective and indicated and high intensity scenarios. Project DC82, Louisiana Maneuvers, is intended to energize and guide the restructuring of the Army in support of a specific item/weapon system. Training devices and training simulations provide force multipliers that improve combat effectiveness by providing realistic Training Center (CMTC), Hohenfels, Germany; and battle staff training in Battle Command Training Program (BCTP) will provide increased combat readiness through situation. Force-on-force training at the National Training Center (NTC), Ft. Irwin, CA; Joint Readiness Training Center (JRTC), Ft. Polk, LA, and Combat Maneuver (NAWCTSD) Support, funds in-house costs of project support by US Army Simulation, Training and Instrumentation Command (STRICOM) and NAWCTSD. This techniques and technology for DIS and related simulations and simulator efforts (transferred to PE 0604760 in FY97). Project D241, Non-System Training Devices-Mission Description and Budget Item Justification: Program Element funds engineering development of Non-System Training Devices to support force-on-force while simultaneously keeping it combat-ready for any contingency. Project DC91, Distributive Interactive Simulation (DIS), includes engineering development of both training (intelligence driver for Corps Battle Simulation (CBS)) and testing. Project D573, STRICOM/Naval Air Warfare Center Training Systems Division

Page 1 of 18 Pages

Exhibit R-2 (PE 0604715A)





FY 1996 FY 1997 FY 1996 FY 1997 FY 1997 FY 1998 FY 1999 FY 1999 FY 2000 FY	RDT&E BUDGET ITEM JUST	GET ITE	SUL M	TIFICAL	FION SF	LEET (R	FIFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	9(
COST (in Thousands) FY 1996 FY 1997 FY 1996 FY 1997 FY 1996 FY 1999 FY 1999 FY 1999 FY 1999 FY 1999 FY 1999 FY 2001 Amission Description and Budget (Item Justification: DC82 - Louisiana Maneuvers (LAM): LAM will serve as a laboratory for the Army to prace missions, to develop and explore options, to assess and direct progress, to provide a framework for decisions by senior feaders, and to facilities the Army and outcomers, and solicy, decreives by incorplement, and solicine states shaping the force. As an evolving process, LAM will exploit the results and outcomers of cache exercises forming a campaign to assess the Army of the 21st century in areas of cache exercises by incorplement, and solicine states shaping the force. As an evolving process, LAM will exploit the results and outcomers of cache exercises forming a campaign to assess the Army of the 21st century in areas of cache exercises by incorplement, and solicine states shaping the force. As an evolving process, LAM will exploit the results and outcomers of cache exercises forming a campaign to assess the Army of the 21st century in areas of cache exercises by incorplements, and order to enhance of falpino-on exercises. Overall, LAM will fous the Army's self-assessment of institutional effectiveness, provide change, and orient the Army's leadership to accomplish the national military strategy with available resources. Acquisition Strategy: Competitive development of synthetic Environment and simulation linkages for the Army Experiment - based on the 1994 Experiment and the solicy of evolopment of Synthetic Theater of War (STOW) Black and White Space Products and Technologies, Assess and Leverage Advanced Theater Missile Defense and a satisficated Visualization, Total Asset Visibility, Acquisition Streamlining, Cache Beatrafield/Enhanced Theater Missile Defense and Technology Transfer (SBIR/STTR) Total SSI0 Total SSI0	BUDGET ACTIVITY 5 - Engineering and Manufa	cturing D	evelopmo	ent	PENL 060 Eng	JMBER AND 4715A Pineering	TITLE Jon-Syste Develop	∍m Traini ıment	ng Devic	.es -	и О	PROJECT DC82
A. Mission Description and Budget Item Justification: DC82 - Louisiana Maneuvers (LAM): LAM will serve as a laboratory for the Army to pragmass, to develop and explore oppitions, to assess the Army of the 21st century in areas of policy, doctine, organization, the advelopment, and solidier issues shaping the force. As an evolving process, LAM will exploit the results and outcomes of each exercise by incorplement, and solidier issues shaping the force. As an evolving process, LAM will exploit the results and outcomes of each exercise by incorplement in order to enhance the value of follow-on exercises. Overall, LAM will focus the Army's self-assessment of institutional effectiveness, provide change, and orient the Army's leadership to accomplish the national military strategy with available resources. Acquisition Strategy: Competitive development of synthetic environment and simulation linkages for the Army Experiment - based on the 1994 Experime - 1296 Continued development on issues such as Battefield Visualization, Total Asset Visibility, Acquisition Streamlining, In 3924 Investigation and tool development on issues such as Battefield Visualization, Total Asset Visibility, Acquisition Streamlining, In 1909 FV 1996 Planned Program: 1.17 Continue development of Synthetic environment and simulation linkages for the Army Experiment - based on the 1994 Experiment - 1417 Continue development on issues such as Battefield Visualization, Total Asset Visibility, Acquisition Streamlining, C 1900 Investigation and tool development on issues such as Battefield Visualization, Total Asset Visibility, Acquisition Streamlining, C 1900 Investigation and tool development on issues such as Battefield Visualization, Total Asset Visibility, Acquisition Streamlining, C 1900 Investigation and tool development on issues such as Battefield Stransfer (SBIR/STTR) 1.20 Friend Assumption not available for execution. 1.30 Small Business Innovative Research/Science and Technology Transfer (SBIR/STTR) 1.50 Friend Assumption not availabl	COST (In Thousands)		FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
A. Mission Description and Budget (Iem Justification: DC82 - Louisiana Maneuvers (LAM): LAM will serve as a laboratory for the Army missions, to develop and explore options, to assess and described a framework for decisions by senior leaders, and to facilitate the Army missions, to develop and explore options, to assess and decisions to develop and explore options, to assess the Army of the 21st century in areas of policy, doctrine, organization, tracked will consist of a series of related exercises forming a campaign to assess the Army of the 21st century in areas of policy, doctrine, organization, tracked evelopment, and solder issues shaping the force. As an evolving process, LAM will exploit the results and outcomes of each exercise by incorpleaned in order to enhance the value of follow-on exercises. Overall, LAM will focus the Army's self-assessment of institutional effectiveness, provide change, and orient the Army's leadership to accomplish the national military strategy with available resources. Acquisition Strategy: Competitive development. FY 1995 Accomplishments: 1206 Confinued development of Synthetic Theater of War (STOW) 200 Development of Synthetic Theater of War (STOW) 301 Investigation and tool development on issues such as Battlefield Visualization, Total Asset Visibility, Acquisition Streamlining, Investigation and tool development of synthetic environment and simulation linkages for the Army Experiment - based on the 1994 Experiment 1190 Continue development of Synthetic Theater of War (STOW) 1100 Continue development of Synthetic environment and simulation linkages for the Army Experiment - based on the 1994 Experiment and only managed programs and Mobilization. 1100 Continue development of synthetic environment and Mobilization. 1110 Small Business Innovative Research/Science and Technology Transfer (SBIR/STTR) 1120 The Battlefield/Enhanced Theater Missile Defense and Mobilization. 1120 Small Business Innovative Research/Science and Technology Transfer (SBIR/STTR)			5720	5810	0	0		0	0		0	11530
Acquisition Strategy: Competitive development. FY 1995 Accomplishments: • 1209 Continued development of synthetic environment and simulation linkages for the Army Experiment - based on the 1994 Experime • 500 Development of Synthetic Theater of War (STOW) • 500 Development of Synthetic Theater of War (STOW) • 500 Development of Synthetic Theater of War (STOW) Black and White Space Products and Technologies, Assess and Leverage Advanced Theater Missile Defense (TMD), Commander Battlefield/Enhanced TMD, Tailorable Force Package, Mobilization and STOW-Europe. Total 5720 FY 1996 Planned Program: • 1473 Continue development of Synthetic Theater of War (STOW) 1190 Continue development of Synthetic Theater of War (STOW) • 1190 Continue development of Synthetic Theater of War (STOW) 1190 Continue development of Synthetic Theater of War (STOW)	A. Mission Description and Budget I missions, to develop and explore option LAM will consist of a series of related leader development, and soldier issues learned in order to enhance the value of change, and orient the Army's leadersh	tem Justifica ns, to assess a exercises forr shaping the fi f follow-on ey	tion: DC82 and direct pro aning a camp orce. As an ecroises. Ov	2 - Louisian: ogress, to pro aign to asses evolving pro erall, LAM onal military	a Maneuver ovide a fram ss the Army ocess, LAM will focus th strategy wit	rs (LAM): ework for d of the 21st o will exploit te Army's so th available	LAM will se ecisions by s sentury in are the results ar slf-assessmer resources.	rve as a labo enior leaders as of policy, 1d outcomes 1t of instituti	ratory for th, and to faci doctrine, or of each exer	e Army to F ilitate the Ai rganization, rcise by inco reness, prov	rractice its ro rmy's transfo training, ma orporating le ide direction	les and ormation. teriel, ssons for
FY 1995 Accomplishments: Continued development of synthetic environment and simulation linkages for the Army Experiment - based on the 1994 Experime Development of Synthetic Theater of War (STOW) Investigation and tool development on issues such as Battlefield Visualization, Total Asset Visibility, Acquisition Streamlining, In Black and White Space Products and Technologies, Assess and Leverage Advanced Theater Missile Defense (TMD), Commander Battlefield/Enhanced TMD, Tailorable Force Package, Mobilization and STOW-Europe. Total 5720 FY 1996 Planned Program: Continue development of synthetic environment and simulation linkages for the Army Experiment - based on the 1994 Experiment and simulation linkages for the Army Experiment - based on the 1994 Experiment the Battlefield/Enhanced Theater of War (STOW) 190 Continue development of Synthetic Theater of War (STOW) 100 Investigation and tool development on issues such as Battlefield Visualization, Total Asset Visibility, Acquisition Streamlining, C the Battlefield/Enhanced Theater Missile Defense and Mobilization. Total Small Business Innovative Research/Science and Technology Transfer (SBIR/STTR) FY 1997 Planned Program: Program-not funded in FY 97	Acquisition Strategy: Competitive de	velopment.										
FY 1996 Planned Program: 1473 Continue development of synthetic environment and simulation linkages for the Army Experiment - based on the 1994 Experiment of Continue development of Synthetic Theater of War (STOW) 1190 Continue development of Synthetic Theater of War (STOW) 3000 Investigation and tool development on issues such as Battlefield Visualization. 17 Revised Economic Assumption not available for execution. 180 Small Business Innovative Research/Science and Technology Transfer (SBIR/STTR) Total 5810 FY 1997 Planned Program: Programmot funded in FY 97	FY 1995 Accomplishments: 1296 Continued develous 500 Development of 3924 Investigation and Black and White Battlefield/Enhand 5720	opment of syr Synthetic The I tool develop Space Produ nced TMD, T	thetic envirvater of War ment on issucts and Tech	(STOW) Les such as E nologies, As	simulation l 3attlefield V ssess and Le , Mobilizatio	inkages for isualization, verage Adv.	the Army Ex Total Asset anced Theate W-Europe.	periment - b: Visibility, A rr Missile De	ased on the cquisition S	1994 Experi treamlining)), Comman	iment. , Interface be iders View of	tween the
	FY 1996 Planned Program: 1473 Continue develo 1190 Continue develo 3000 Investigation and the Battleffeld/E 17 Revised Eçonom 130 Small Business I Total	pment of synt pment of Syn d tool develop nhanced Thea ric Assumptic Innovative Re	hetic enviro thetic Theat ment on issi ter Missile I n not availal	nment and s er of War (S ues such as I Defense and ble for exect ice and Tech	imulation lii TOW) Battleffeld V Mobilizatic ution. mology Trat	nkages for the 'isualization' on.	ie Army Exp , Total Asset STTR)	eriment - ba	sed on the 1'	994 Experir treamlining	nent. " Commande	rs View of
Project DC82 Exhibit R-2 (PE 0604715A)	FY 1997 Planned Program: Program	rnot funded i	n FY 97		Page 2 of	18 Pages			Exhib	it R-2 (PE	0604715A)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICAT	ION SH	EET (R-	2 Exhib	it)	Δ	DATE Marc	March 1996	
BUDGET ACTIVITY 5 Engineering and Manufacturing Development	evelopme	ant	PE NUN 0604 Engi	PE NUMBER AND TITLE 0604715A Non-Engineering Dev	PE NUMBER AND TITLE 0604715A Non-System Tra Engineering Development	m Traini nent	D TITLE Non-System Training Devices ig Development	· s	PROJECT DC82	2 2
B. Project Change Sum Previous President's Bude 996) Appropriated Value (FY 1		FY 1995 5848 5725	FY	<u>1996</u> 5973	F <u>Y 1997</u> 4987					
Adjustments to 3Y 1995 Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997 since		5		5868 -58	-4987					
Current President's Budget Submit		5720		5810	0					
Change Summary Explanation. Funding: FY 97 Reflects movement of funds to a higher	nds to a highe		priority program (-4987)	(1						
C. Other Program Funding Summary OPA2, Appropriation BE4162 MACOM Automation Systems	FY 1995 840	FY 1996 941	FY 1997 0	FY 1998 0	FY 1999 0	FY 2000 0	FY 2001 0	O	To Compl 0	Total Cost 1781
D. Schedule Profile Conduct CTOW F Devicement	FY 1995 2 3	4	FY 1 2	FY 1996 2 3	4			·		
Force		*		×						
Conduct TME Experiment Conduct Total Asset Visibility and	* *	*		×	×					
Acquisition Streamlining Experiment Complete Synthetic Environment, Phase I Complete Synthetic Environment, Ph II	*		×							
Automotive consequence of the second			,	ĺ						
Project DC82			Page 3 of 18 Pages	8 Pages			Exhibit	Exhibit R-2 (PE 0604715A)	715A)	
			808							





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RDT&E PROGRAM ELEMENT/PROJE	PROJECT COST BREAKDOWN (R-3)		DATE March 1996	966
вирсет астічіту 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604715A Non-System Tra Engineering Development	PE NUMBER AND TITLE 0604715A Non-System Training Devices Engineering Development	- sə	PROJECT DC82
A: Project Cost Breakdown Software Development Integrated Lögistic Support Revised Economic Assessment not available for execution SBIR/STTR Total B. Budget Acquisition History and Planning Information: Not Applicable	FY 1995 4435 4435 4763 1285 900 17 130 5720 5810	FY 1997 0		
Project DC82	Page 4 of 18 Pages	Exhibi	Exhibit R-3 (PE 0604715A)	(a)
	808			

RDT? = BUDG ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION SE	HEET (R	-2 Exhil	bit)		<u>-</u>	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Jevelopm	ent	PE N 060 Enç	PE NUMBER AND TITLE 0604715A Non-Engineering Dev	E NUMBER AND TITLE 0604715A Non-System Training Devices Engineering Development	em Train ment	ing Devic	- sə:	<u> </u>	Р R ОЈЕСТ DC91
COST (In Tho⊍ ands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DC91 Distributive Interactive Simulation	3373	5972	0	0	0	0	0		0	9345

techniques and DIS technology of wide area simulation networking in support of modeling and simulation, doctrinal development, training, and operations, utilizing live, A. Mission Description and Budget Item Justification: DC91 - Distributive Interactive Simulation (DIS) - This project focuses on engineering development of virtual and constructive simulations. Effective FY 97 this project was transferred to PE 0604760A which more clearly describes the program effort.

Acquisition Strategy: Competitive development leading to competitive procurement against performance specifications.

FY 1995 Accomplishments:

- 1415 Continued DIS site operations
- 1958 Initiated systems engineering and integration contract

Total 3373

FY 1996 Planned Program:

- 1348 Provide system engineering, configuration management, systems interoperability and standards development for the Army Synthetic Environment.
 - 950 DIS verification, validation and accreditation methodology.
- 531 Develop enhancements to modular semi-automated forces software.
- 2993 Continue engineering and development of Battlelab Reconfigureable Simulators.
 - 17 Revised Economic Assumption not available for execution.
- Small Business Innovative Research/Science and Technology Transfer (SBIR/STTR)
- otal 59

FY 1997 Planned Program: Project transferred to PE 0604760A, Project DC 77, Interactive Simulation

Project DC91

Page 5 of 18 Pages

Exhibit R-2 (PE 0604715A)





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RDT&E BUDGET ITEM JUSTIFICATI	TIFICATION SHEET (R-2 Exhibit)	(R-2 Exhik	oit)	NA.	March 1996	1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604715A Non-	0604715A Non-System Training Devices	m Traini	ng Devices	- 9	PROJECT DC91	1 1
	Engineeri	Engineering Development	ment				
B. Project Change Summary	FY 1996	FY 1997					
Y 1996)	6139	3745					
Appropriated Amount (FY 1995).							
Adjustments to FY 1995	6032						
Appropriated Amount (FY 1996)	7500						
Adjustment to FY 1996 Applications Adjustment to FY 1996 Applications A	3	- 3745					
Adjustments to Budget Year (F.Y. 1997) since) }					
Current President's Budget Submit	5972	0					
Change Summary Explanation: Fry 77 Current Budget Estimate Submission reflects transfer of Project DC91 to PE 0604760A	r of Project DC91 to	PE 0604760A					-
C Other Drogram Funding Summary						To	Total
FY	FY 1997 FY 1998	98 FY 1999	FY 2000	FY 2001	Co	Compl	Cost
RDTE, Budget Activity 5 DE 06047604 Project DC81 Battle Lab						>	6177
						c	,,,,,
RDTE, Budget Activity 4 DE OCO3740A Design DC80 Battle I ab						-	\$000
FE 0003 / 00A T10Ject Deco Dattic Each							
OPA 3, Appropriation KA6000, Recon Simulators 12222	13335 16480 11100 12300	80 7828 00 12400	3928 12500	3153 12600		00	Cont'd Cont'd
OMA, Reconfigurable Simulators							
D. <u>Schedule Profile</u> 1 2 3 4	FY 1996 1 2 3	4					
Award Contract	*×						
Dis Verincation and Vandadori Simulator upgrades	×						
Reconfigurable Simulator Contract	*×						
* Completed Milestones							
Project DC91	Page 6 of 18 Pages			Exhibit F	Exhibit R-2 (PE 0604715A)	15A)	

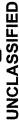
RDT&E PPOGRAM ELEMENT/PROJECT	ROJECT COST BREAKDOWN (R-3)		DATE March 1996	96
BUDGET ACTIV'TY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604715A Non-System Tra Engineering Development	PE NUMBER AND TITLE 0604715A Non-System Training Devices - Engineering Development		РКОЈЕСТ DC91
A. Project Cost Breakdown Operate DIS facilities Award Contract Develop module definition for Scidier Combat Service Support and early entry SIMS Simulation Software upgrades DIS Verification and Validation Revised Economic Assessment not available for execution SBIR/STTR Total	55	FY 1997		
B. Budget Acquisition History and Planning Information: Not Applicable				

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Page 7 of 18 Pages

Project DC91

Exhibit R-3 (PE 0604715A)



RDT&E BUDGET ITEM JUS	EM JUS	TIFICA	TION SI	TIFICATION SHEET (R-2 Exhibit)	-2 Exhil	bit)	<u>O</u>	DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	evelopm	ent	PE NI 060	F NUMBER AND TITLE 0604715A Non-	ппс Ion-Syste	em Traini	E NUMBER AND TITLE D604715A Non-System Training Devices	- Si	ā O	PROJECT D241
			Enç	Engineering Development	Develop	ment				
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D241 Non-System Training Devices	25876	27354	29752	31390	26925	46444	28419		Continuing	Continuing Continuing

A. Mission Description and Budget Item Justification: D241 - NSTD Combined Arms: This project is used to develop prototype training devices to support Combined WARSIM will utilize current technology to efficiently provide training support and linkage to other simulations and simulators. WARSIM will comply with DIS standards Simulation (BBS) is a simulation that trains commanders and their staff in command & control skills via two sided, free play, real time computer driven exercises. Combat exercises. Devices developed will enable the Army to train units collectively to obtain synergistic results through the employment of weapons and support systems in their and open architecture to meet the Army's training requirements into the next century. Multiple Integrated Laser Engagement Simulation 2000 (MILES 2000) will provide respective battlefield roles. The Fire Support Combined Arms Tactical Trainer (FSCATT), provides for initial and sustainment gunnery training, and can be linked as part additional cost effective weapon system capabilities during tactical engagement exercises. Simulated Area Weapons Effects-Radio Frequency (SAWE-RF) simulates area level of detail required to train logistics commanders and staffs. Warfighter Simulation (WARSIM) will be the next generation battle simulation to replace CBS and BBS. Reserve Components. Corps Battle Simulation (CBS) is the Army's standard command and staff training simulation at the corps/division level. Brigade/Battalion Battle Service Support Training Simulation System (CSSTSS) is a training simulation which supports training at battalions through echelons-above-corps levels to provide the Trainer - Armor (GUARDFIST I) provides reserve components armor battalions full crew gunnery sustainment training. This project funds the development of training weapons effects using distributed processing techniques and a radio frequency communications system. Guard Unit Armory Device Full Crew Interactive Simulation devices, simulators, simulations and instrumentation for the Combat Training Centers (CTC's) to include Opposing Forces Surrogate Vehicles (OSV's) for display of Arms (Infantry, Armor, Aviation, Air Defense, Artillery, Engineer, Chemical, and Support troops) training and multi-system training within the Army, to include the doctrinally correct threat at the CTC's. The Air Ground Engagement System II (AGES II) will permit the inclusion of aviation assets in MILES tactical engagement of the CATT family. FSCATT is designated as the Army's only defense acquisition pilot program IAW the Federal Acquisition Streamlining Act (FASTA).

Acquisition Strategy: Competitive development efforts leading to competitive procurement against performance specifications.

FY 1995 Accomplishments:

- Initiated development of CBS 1.5.3
- Initiated development of FSCATT Phase I 5755
- Development of AGES II upgrades 1445
 - Development of CSSTSS
- Continued development of devices, simulators and simulations to support training at the CTCs (i.e. NTC, JRTC, CMTC, and BCTP), to include CTC-
- Awarded Engineering Manufacturing and Development (EMD) contract to 3 contractors for future downselect, WARSIM 2000

Page 8 of 18 Pages

Project D241

Exhibit R-2 (PE 0604715A)

	RDT&E BUDGET ITEM JUSTIFICATION	FICATION SHEET (R-2 Exhibit)	March 1996
BUDGET ACTIVITY 5 - Engineering	вироет Астіміту 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604715A Non-System Training Devices - Engineering Development	РКС.ЕСТ D241
FY 1995 Accomplis 580 731 500 1487 175 175 Total 25876	1995 Accomplishments: (continued) 580 Continued limited BBS enhancements 731 Continued enhancements of BCTP AAR for Armywide CBS 500 Completed development of M113 OSV 1487 Completed development of CBS 1.5.2 175 Completed Initial Operational Test and Evaluation of GUARDFIST 11 25876	S RDFIST I	
FY 1996 Planned Program:	te licuited BBS enhancements ste development of CSSTSS ne development of devices, simulators te CBS 1.5.3 and continue limited enle contract option to downselect to prine development of FSCATT Phase I be development of RSCATT Phase I Economic Assumption not available business Innovative Research/Science	and simulations to support training at the NTC, JRTC, & CMTC nancements to CBS ne contractor for WARSIM 2000 EMD for execution.	
FY 1997 Planned Program:	ogram: Development of WARSIM 2000 EMD. Initiate development MILES 2000 for new weapon systems (i.e., armored gun system and Bradley A3) Complete development of FSCATT Phase I Continue limited enhancements to CBS	is (i.e., armored gun system and Bradley A3)	
Project D241	Pa	Page 9 of 18 Pages Exhibit R-2	Exhibit R-2 (PE 0604715A)



RDT&E BUDGET ITEM JUSTIFICA	TIFICATION SHEET (R-2 Exhibit)	EET (R-	2 Exhib	jt)	DATE	Е March 1996	9661	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUM 0604	PE NUMBER AND TITLE 0604715A Non-	TLE on-Syste	m Traini	PE NUMBER AND TITLE 0604715A Non-System Training Devices	,	PROJECT D241	t.
		ering	Developi	nent				
B. Project Change Summary FY 1995	H.		FY 1997					
(9661 A		31121	31314					
Appropriated Amount (FY 1995) 24161	<u></u> 4							
		97870						
Appropriated Amount (FY-1996)	7	775 -775						
Adjustment to Budget Year (FY 1997) since		1	-1562					
Current President's Budget Submit 25876		27354	29752					
Change Summary Explanation: Page 1807 from Project DC80. PE (DC80. PE 0603760A and -92 rescission.	-92 rescission	'n.					
gram Funding Summary					,	ı		Total
FY 1995 F	E	FY 1998	FY 1999	FY 2000	FY 2001	Comp	(Cost
OPA3; Appropriation 73688 73688	82724	47539	78327	80401	96893	Contra		Cont. a
ices, Nonsystem		0	•	1026	18700	7		P(400)
OPA3, Appropriation 29351 21514	4714	3802	•	1/282	18/00			n iiio
•		20110	78634	23950	10695	Cont'd		Cont'd
OPA39Appropriation of the second O O	1/390	20110	46007	77007	66001			3 110
NAUL/A tritte Support Combined Anns Tactical								
	FY	FY 1996		FY 1997	7.0			
1 2	1 2	33	4 1	7	3 4			
WARSIM Contract Award X*		;						
WARSIM Downselect Option/Award	;	×						
ıtion	*							
GUARDFIST I Milestone III X*			÷					
IRTC-IS-IOG Company Co			<	>				
FSCATT IOC X*				<				
Drainot DOA!	Page 10 of 18 Pages	8 Pages			Exhibit R	Exhibit R-2 (PE 0604715A)	5A)	
110700 7111	010							

RDT&E BUDGET ITEM JUST	IFICATION SHEET (R-2 Exhibit)	March 1996
вурлет Астіліту 5 - Engineering ard Manufacturing Development	PE NUMBER AND TITLE 0604715A Non-System Training Devices - Engineering Development	PROJECT D241
D. Schedule FrofileFY 199512341JRTC MOUT-IS Contract AwardX*X*Miles 2000 New Weapon System Initiate	FY 1996 2 3 4 1 2 3 4 X	
* Completed Milestones		
,如果我们就是一个人,就是我们的人,也不是我们的人,也不是我们的人,也不是我们的人,也可以不是我们的人,也是我们的人,也是我们的人,也是我们的人,也是我们的人,也是我们的人,也是我们的人,他们就是我们		
Project D241	Page 11 of 18 Pages Exhibit R-2 (PE 0604715A)	0604715A)
	017	





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	JECT C	OST BREAKI	DOWN (R-3)	DATE	March 1996
		PE NUMBER AND TITLE 0604715A Non-System Tra Engineering Development	PE NUMBER AND TITLE 0604715A Non-System Training Devices Engineering Development	Devices -	РКОЈЕСТ D241
A. Project Cost Breakdown System Development Test and Evaluation Technical Data Revised Economic Assessment not available for execution SBIR/STTR Total B. Budget Acquisition History and Planning Information: Not Applicable	FY 1995 25200 626 50 25876 licable	EY 1996 25429 1000 236 78 611 27354	EY 1997 29080 87 585 29752		
Addition of the proof of the pr					
Manufact D241	Page	Page 12 of 18 Pages		Exhibit R-3 (PE 0604715A)	504715A)
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	ENA 11 10		TION OF	JEET /B	1 2 EVE:	12:51		DATE		
KUI KE BUDGEI II EMI JUSI	EIVI JUS		I ON OF	ט) וששר	FICATION SHEET (R-2 EXHIBIT)	מומ		2	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developmen	evelopm	ent	PE NO 060 Eng	PE NUMBER AND TITLE 0604715A Non-Engineering De	PE NUMBER AND TITLE 0604715A Non-System Tra Engineering Development	em Train	PE NUMBER AND TITLE 0604715A Non-System Training Devices Engineering Development	- se:	<u>a </u>	РRОЈЕСТ D396
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D396 Tactical Simulation (TIARA)	3376	2025	2781	3100	2295	3821	3789		Continuing	Continuing
A. <u>Mission Description and Budget Item Justification</u> : D396 - Tactical Simulation (Corps Battle Simulation (CBS) and the Warfighters' Simulation 2000 (WARSIM 2000). training exercises. TACSIM is a TIARA program.	ation: D396 Simulation	- Tactical 2000 (WAR	Factical Simulation (TACSIM):. 30 (WARSIM 2000). It provides		. Tactical S simulated,	imulation (T raw intel dat	ACSIM) is t	he intelliger e intel analy	'ACSIM): Tactical Simulation (TACSIM) is the intelligence driver for the It provides simulated, raw intel data to drive the intel analysis function during	the uring
Acquisition Strategy. Competitive development leading to competitive procurement against performance specifications.	ading to com	petitive pro	curement aga	ainst perforn	nance specifi	ications.				
FY 1995 Accomplishments: 1050 Completed TACSIM 2.1.5.2 development 1028 Initiated TACSIM 2.1.5.3 development 590 Completed TACSIM/CBS development for CBS 218 Continued TACSIM/ALSP interface development 490 Initiated development of Warfighters' Simulation (WARSIM) intelligence capability Total	development velopment velopment fo iterface deve fighters' Sirr	r CBS lopment ulation (W/	ARSIM) intel	lligence cap	ability					
FY 1907 FY 1907 FY 1000 FT. The state of the	evelopment terface devel opment/com ufighters' Sii on not availa	opment vatibility wit nulation (W ble for exect ree and Tect	nent bility with CBS ation (WARSIM) intelligence capability for execution. and Technology Transfer (SBIR/STTR)	elligence ca _l ısfer (SBIR/	pability STTR)					
FY 1997 Planned Program: 800 Complete TACSIM 2.1.6 186 Initiate minor TACSIM enhancements 1795 Continue development of Warfighters' Simulation (WARSIM) intelligence capability Total 2781	ncements rfighters' Si	nulation (W	'ARSIM) int	elligence ca _l	pability					
Project D396			Page 13 of 18 Pages	18 Pages			Exhib	it R-2 (PE	Exhibit R-2 (PE 0604715A)	





RDT&E BUDGET ITEM JUSTII	FICATION	TIFICATION SHEET (R-2 Exhibit)	R-2 Exhib	it)	DATE	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604715A Non-Engineering Dev	PE NUMBER AND TITLE 0604715A Non-System Tra Engineering Development	PE NUMBER AND TITLE 0604715A Non-System Training Devices Engineering Development	evices -	PROJECT D396
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995)	F <u>Y 1995</u> 3448 3376	<u>FY 1996</u> 2083	FY 1997 2879			
Adjustments to FY 1995 Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget	12386	2046 -21	-98			
C. Other Program Funding Summary: Not Applicable						
D. Schedule Profile Software Build Developmental Test and Evaluation X*	4 * X	FY 1996 2 3 X*	4 X	FY 1997 2 3 X	4 X	
Project D396	Pag	Page 14 of 18 Pages			Exhibit R-2 (Exhibit R-2 (PE 0604715A)
		810				

RDT&E PRCGRAM ELEMENT/PROJEC	ROJECT COST BREAKDOWN (R-3)	(DOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604715A Non-System Tra Engineering Development	PE NUMBER AND TITLE 0604715A Non-System Training Devices - Engineering Development	PROJECT D396
A. Project Cost Breakdown Software Development System Engineering	FY 1995 FY 1996 938 518 760 478	FY 1997 674 587	
Configuration Managemant Technical Dan		566 385	
Developmental Test and Evaluation Revised Economic Assumption not available for execution SBIR/STTR Total	608 359 5 45 3376 2025	569	
idget Acquisition Eistory and Planning Information: Not Applicabl)	5	
Project D396	Page 15 of 18 Pages	Exhi	Exhibit R-3 (PE 0604715A)



	RDT&E BUDGET ITEM JUS	EM JUS	TIFICA	TION S	TIFICATION SHEET (R-2 Exhibit)	-2 Exhil	oit)		DATE N	March 1996	6
BUDGET ACTIVITY 5 - Engineering	SUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PE NE 060 Enç	PE NUMBER AND TITLE 0604715A Non-System Training Devices Engineering Development	गात Ion-Syste Develop	em Traini ment	ng Devic			РКОЈЕСТ D573
Ö	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D573 STRICOM and Naval A	STRICOM and Naval Air Warfare Center Training Systems Division	9541	9717	10332	10761	10679	10450	10623		Continuing	Continuing
A. Mission Description an proportionate Army share of which is reviewed annually.	A. Mission Description and Budget Item Justification: D573 proportionate Army share of the operating costs of the Naval Air which is reviewed annually.	<u>ution:</u> D573 ne Naval Air		M and NAV	VCTSD: Th g Systems D	is project fur ivision (NA)	nds STRICC WCTSD) thı	M personne ough an inte	l salaries an er-service su	- STRICOM and NAWCTSD: This project funds STRICOM personnel salaries and support costs and a Warfare Center Training Systems Division (NAWCTSD) through an inter-service support agreement	ts and a ent
FY 1995 Accomplishments:	hments: Funded STRICOM personnel & support Funded NAWCTSD support	& support									
FY 1996 Planned Program:	rogram: Funds STRICOM personnel & support Funds NAWCTSD support Revised Economic Assumption not available for execution. Small Business Innovative Research/Science and Technology Transfer (SBIR/STTR)	c support n not availal search/Scien	ole for exect	ution. nnology Trar	ısfer (SBIR/S	TTR)					
FY 1997 Planned Program:	rogram: Funds STRICOM personnel & support Funds NAWCTSD support	s support									
Project D573	The state of the s			Page 16 of 18 Pages	718 Pages			Exhib	Exhibit R-2 (PE 0604715A)	0604715A)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION SHEET		DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604715A Non-Engineering Dev	PE NUMBER AND TITLE 0604715A Non-System Training Devices Engineering Development	PROJECT
B. Project Change Summary Previous President's Budget (FY 1996) Previous President's Budget (FY 1995) Appropriated Amount (FY 1995) Appropriated Amount (FY 1995) Adjustments to 1-Y 1995 Adjustment to 1-Y 1996 Adjustment to 1-Y 1997 Adjustment to 1-Y 1996 Adjustment to 1-Y 1996 Adjustment to 1-Y 1996 Adjustment to 1-Y 1996 Adjustment to 1-Y 1995 Adjustment to 1-Y 1995 Adjustment to 1-Y 1995 Adjustment to 1-Y 1996 Adjustment to 1-Y 19	FY 1995 9608 9987 9544 -3 2046 -54 9541 9717 9641 9717	FY 1997 10418 -86 10332	
Project D573	Page 17 of 18 Pages		Exhibit R-2 (PE 0604715A)
	301016/10801		117-5 (F C C C C T C C C C C C C C C C C C C C





RDT&E PROGRAM ELEMENT/PROJE	/PROJECT COST BREAKDOWN (R-3)	(DOWN (R-3)	DATE March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604715A Non-System Tra Engineering Development	PE NUMBER AND TITLE 0604715A Non-System Training Devices Engineering Development	- seo	PROJECT D573
A. Project Cost Breakdown Find STRICOM Personnel & support Fund NAWCTSD Support Revised Economic Assumption not available for execution	FY 1995 FY 1996 8562 8469 979 1200 33	FY 1997 8932 1400		
cquisit	541	10332		
Project D573	Page 18 of 18 Pages	Exhil	Exhibit R-3 (PE 0604715A)	A)
	833			

RDT&E BUDGET ITEM JUSTIFICATION	TIFICATION SHEET (R-2 Exhibit)	March 1996
RIDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - Engineering and Manufacturing Development	0604716A Terrain Information - Engineering	D579
	Development (TIARA)	

Continuing **Total Cost** Continuing Cost to Complete FY 2001 Estimate 2293 FY 2000 Estimate 2877 FY 1999 Estimate 3108 FY 1998 Estimate 7369 FY 1997 Estimate FY 1996 Estimate FY 1995 Actual COST (In Thousands) Field Army Map Sys Eng Dev

analysis and reproduction capability. It has been determined that the downsized capability is now more appropriate to support contingency operations, operations other than the functional capabilities of DTSS and QRMP will be developed into a single interoperable architecture. Part of imagery exploitation includes the development of a Multiwhere standard map products are not available, image map production has become an urgent need. The CTIS project office was tasked with the mission to issue the DTSS-Multicolor Printer (DTSS/QRMP). The current terrain analysis, topographic and reproduction support provided by Army Engineer Terrain Teams are slow, labor intensive war (OOTW), and split based operations. The DTSS/QRMP will be deployed at Division, Corps, and EAC in support of these missions. The DTSS/QRMP will automate immediately with the Lownsized Egy configuration and further identified that QRMP functionality would be incorporated into the DTSS for a single integrated terrain the updating and processing of terrain information into terrain analysis products, provide rapid reproduction of low volume, up-to-date, large format, full color imagery Spectral Imagery Processor (MSIP), which provides an image map making capability. Due to current world events and the possibility of contingency missions in areas products. The Combat Terrain Information Systems (CTIS) Modernization Plan, approved in April 1994 by the Combat Developer, stated the requirement to proceed MSIP as an interim measure to topographic units. The project in this Program Element supports research efforts in the Engineering and Manufacturing Development processes that do not meet the needs of the Force XXI battlefield in which the commander must have the ability to rapidly obtain terrain information and topographic A. Mission Description and Builget Item Justification: This program element funds development of the Digital Topographic Support System/Quick Response maps, situation overlays, special graphics (e.g. captured enemy maps) and other topographic and terrain products. Using the most current technology available, (E&MD) phases of the acquisition strategy and is therefore correctly placed in Budget Activity 5.

Hardware/Software (CHS) computer workstations in conjunction with non-development item (NDI) components to develop an integrated baseline hardware configuration. system integration, and provide units for formal test and evaluation. The procurement of the Multi-Spectral Image Processor (MSIP) was approved by the Army. The acquisition of the MSIP relied upon existing contracts and commercial-off-the-shelf (COTS) to the fullest extent possible. Existing DTSS units will be upgraded to a The plan is to utilize the Combat Terrain Information Systems (CTIS) System Engineering and Integration (SE&I) contractor to execute the EMD phase, to perform 5-ton ISO 20 foot shelter configuration. The upgraded 5-ton systems will provide an integrated capability while preserving the Army's investment in the DTSS. B. Acquisition Strategy: The Acquisition Strategy being pursued for the DTSS/QRMP EMD phase is to utilize Army standard equipment and the Common

program is to execute the EMD phase through the current SE&I contractor, Lockheed Martin Corporation. A Competitive Cost Plus Fixed Fee (CPFF) contract was awarded Systems (PEO C3S). Project management is provided by the Project Director (PD) for Combat Terrain Information Systems. The contracting strategy for the DTSS/QRMP Program Management regenerated and milestone decision authority have been assigned to the Program Executive Officer for Command, Control, and Communications for the CTIS SE&I contract. A competitively awarded, Firm Fixed Price (FFP) contract is anticipated for the Full Rate Production of the DTSS/QRMP. Upgrades to the existing DTSS units will also be accomplished through the CTIS SE&I contract. The computer workstations for CTIS programs are being procured through the PM for Common Hardware and Software.

Project D579

Page 1 of 5 Pages

Exhibit R-2 (PE 06047





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (I	R-2 Exhibit)	DATE March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604716A Terrain Info Development (TIARA)	PE NUMBER AND TITLE 0604716A Terrain Information - Engineering Development (TIARA)	PROJECT neering D579	ест Э
FY 1995 Accomplishments: 300 Initiated Development of DTSS Upgrade 300 Completed Development of DTSS-MSIP 1000 Completed DTSS Block I P31 and Conducted Test and Evaluation (Software) 7899 Continued Development of Downsized DTSS/QRMP 500 Continued P31 Program (Interoperability)	aluation (Software)			
 FY 1996 Planned Program: 2000 Complete Development of DTSS Upgrade 5674 Continue Development of Downsized DTSS /QRMP 600 Continue P3I Program (Interoperability) 235 Initiate Test and Evaluation of EMD Prototypes 24 Revised Economic Assumption - Not Available for Execution 195 SBIR/STTR Total 8728 	tion			
FY 1997 Planned Program: 4800 Complete Development of Downsized DTSS/QRMP 569 Conduct Test and Evaluation of EMD Prototypes 2000 Initiate P31 Development for DTSS/QRMP Total 7369				
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY-1995)	<u>FY 1996</u> 9011	FY 1997 7630		
Appropriated Amount (FY 1996) Adjustments to FY 1996	8817 -89			
Adjustments to Budget Year (FY97) since FY 96 President's Budget		-261		
Current President's Budget Submit	8728	7369		
Project D579	Page 2 of 5 Pages	Exhi	Exhibit R-2 (PE 0604716A)	

RDT&E BUDGET ITEM JUST		M JUST		ION SH	EET (R	FICATION SHEET (R-2 Exhibit)	it)		DATE	March 1996	40
вирбет АстіVITY 5 - Engineering and Manufacturing Developmen	ng De	velopme	i i	PE NUI 0604 Dev	PE NUMBER AND TITLE 0604716A Terra Development (T	PE NUMBER AND TITLE 0604716A Terrain Information - Engineering Development (TIARA)	ormation		ineering	II. Q	PROJECT D579
Change Summary Explar ation: Funding: FY 96 - (-89) the portion of this program that has been proposed for rescission. FY 97 - (-261) reduction due to revised inflation rates	prograr evised i	n that has been flation rates	n proposed	for rescission	on.						
C. Other Program Funding Summary A - KA2550 - DTSS		FY 1995 7779	FY 1996 6736	F <u>Y 1997</u> 6425	FY 1998 7800	FY 1999 4847	FY 2000 1871	FY 2001 2323	3	To Compl CONT	Total Cost CONT
D. Schedule Profile	_	FY 1995	4	F3	FY 1996 2 3	4	FY 1997	3 4			
Award Downsized DTSS/QRMP EMD Task Order Conduct MSIP Beta Testing Initiate Delivery of MSE to Terrain Teams Develop DTSS (Heavy) Upgrade Delivery of DTSS/QRMP Build 1 S/W Delivery of Enhanced DTSS-MSIPs Incorporate DTSS (Heavy) Upgrades Conduct Downsized DTSS/QPMP Developmental Test and Evaluation/ Operational Test and Evaluation (DT&E/OT&E) Initiate Fielding of Upgrades Downsized DTSS/QPM *Milestone Complete	* *	*	*	×	×	×			××		
									7		
Project D579				Page 3 of 5 Pages	5 Pages			Ext	Exhibit R-2 (PE 0604716A))604716A)	
				200							



RDT&E PROGRAM ELEMENT/PRO.	/PROJECT COST BREAKDOWN (R-3)	ST BRE	AKDO/	NN (R-3		DATE March 1996	960
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604716A Terrain Inf Development (TIARA)	TETTE Terrain	Informati &A)	PE NUMBER AND TITLE 0604716A Terrain Information - Engineering Development (TIARA)	4	PROJECT D579
A. Project Cost Breakdown	FY 1995	FY 1996		F <u>Y</u> 1997			
Primary System Development Software Development Government Furnished Equipment Government Engineering Support (includes Test Support)	3886 2800 300 740 900	3358 2358 300 632 900	22088	1750 2000 300 1439 900			
Contractor Engineering Support Licenses and Maintenance Project Management and Administration Revised Economic Assumption - Not Available for Execution SRIP/STTR	1360	11 950 24 24 195	1 5 5	30			
Total	6666	8728	∞	7369			
Organiz							
Contractor or Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity Vehicle Date EAC	Project Office F EAC F	Total Prior to FY 1995 F	FY 1995	FY 1996	FY 1997	Budget to <u>Complete</u>	Total Program
elopmen e (35657	35657	0	0	0		0 35657
Akron, OH Prod Option Lockheed Martin C/CPFF 1/93 22000	22000	4200	9899	5920	3750	CONT	CONT
Ft Wash, PA In-House MIPR			1373	926	086	CONT	CONT
Support and Management Organizations CSC C/FFP			400	400			
Project D579	Page 4	Page 4 of 5 Pages	:		Exhibit	Exhibit R-3 (PE 0604716A)	(2
		200					

	RDT&	E PROG	RAM ELI	RDT&E PROGRAM ELEMENT/PRC	JECT (COST BF	REAKDC	ROJECT COST BREAKDOWN (R-3)		DATE M	March 1996	
Method/Type Award or Performing Project Total Budget to CONT	BUDGET ACTIVITY 5 - Engineering a	ind Manuf	acturing E)evelopment		PE NUMBER 0604716 Develop	AND TITLE A Terrain ment (TIA	n Informat (RA)	tion - Engin		R O	олест 579
FFRDC thrust Puson FFRDC thrust Puson FFRDC thrust Puson FFRDC thrust Puson FFRDC thrust FFRDC thru		ontract fethod/Type r Funding <u>ehicle</u> FP thru PM	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997 400		Budget to Complete CONT	Total Program CONT
Fundamentary Fund		Itel Fusion FRDC thru					200	200	200		CONT	CONT
Total ivery	OGAs	rpR					069	397	870		CONT	CONT
Total Prior to Prior to FY 1995 FY 1995 FY 1996 FY 1997 Complete Prior to Budget to Complete Prior to Budget to Complete Prior to Brior to Brior to Budget to Brior to Br	TECOM EVALUATION C	di R					20	235	269		CONT	CONT
300 300 CONT 39857 8359 7196 5030 CONT 50 235 569 CONT 50 235 7369 CONT 739857 9999 8728 7369 CONT 7486 5 of 5 Pages Exhibit R-3 (PE 0604716A)	ernment Furnish tiption	d Property Control Tethoc/Type Tethoding	Award or Obligation <u>Date</u>	Delivery <u>Date</u>		Total Prior to FY 1995	FY 1995	FY 1996	FY 1997		Budget to Complete	Total Program
39857 8359 7196 5030 CONT 1590 1297 1770 CONT 50 235 569 CONT 39857 9999 8728 7369 CONT Page 5 of 5 Pages Exhibit R-3 (PE 0604716A)	SUN'S (ECS) TBD Support and Manage: Test and Evaluation P	EQS EQS	20 Apr 95 y: None	7 Jul 95 to TEC			300	300	300		CONT	300 CONT
Page 5 of 5 Pages	Subtotal Product Devel Subtotal Support and M Subtotal Test and Evalu Total Project	opmen. fanagement iation				39857	8359 1590 50 9999	7196 1297 235 8728	5030 1770 569 7369		CONT CONT CONT CONT	CONT CONT CONT
Page 5 of 5 Pages	* Prior year funding on	ly covers the l	Prime Contrac	tors.								
Page 5 of 5 Pages		A STATE OF THE STA	:									
	Project D579				Pa	ge 5 of 5 Pag	es		Exhib	it R-3 (PE 0	(604716A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	S NOIL	HEET (R	اال×2 Exhil	bit)		M	March 1996	9
BUDGET ACTIVITY			PEN	PE NUMBER AND TITLE	TITLE			1		PROJECT
5 - Engineering and Manufacturing Developm	Jevelopm	ent	090	4739A li	ntegrated	Broadc)604739A Integrated Broadcast Service - Modules	e - Modu		D702
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001		Cost to	Total Cost
COST (In Trousands) 6	Actual	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate		Complete	
D702 Common Broadcast Integrated Service-Modules	0	0	4867	4845	4819	4786	4754		Continuing	Continuing Continuing

consolidate/eliminate duplication of effort previously spread across multiple PEs/SSNs DOD wide. This program funds design, development, test and evaluation of initial A. Mission Description and Budget Item Justification: The Integrated Broadcast Service (IBS) is the worldwide, DOD Standard Network for transmitting tactical and CIBS hardware and software modules, as well as implementing performance expanding modifications to the family of CIBS-M Modules. This program element supports strategic intelligence and targeting data. The Common Integrated Broadcast Service - Modules (CIBS-M) Multiservice and SOCOM Joint Program was, created to development efforts in the Engineering and Manufacturing development phases of the Acquisition Strategy and are therefore correctly placed in Budget Activity 5. consolidate and replace all requirements associated with multiple existing and development systems. This is a new start required to implement the IBS plan and

Acquisition Strategy: The CIBS-M family of modules is the consolidation of multiple legacy weapon systems across all DOD component agencies. The Joint Program will competitively procure the HW/SW modules and perform necessary modifications as the Broadcast Networks continue to evolve and modify their transmissions.

FY 1995 Accomplishments: Not funded in FY 95

FY 1996 Planned Program: Not funded in FY 96

FY 1997 Planned Program:

- 3148 Begin CIBS-M Design
- 908 Complete CIBS-M Prototype Fabrication
 - 811 Conduct CIBS-M Test
- Total 486

Page I of 3 Pages

Project D702

Exhibit R-2 (PE 0604739A)

RDT&E BUDGET ITEM JUSTIFICATION	IFICATION SHEET (R-2 Exhibit)	R-2 Exhik	oit)	DATE March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Dovelopment	PE NUMBE 0604739A	TLE Integrated	Broadcast Se	ताह Integrated Broadcast Service - Modules	PROJECT D702
B. Project Change Summary Previous President's Budget '76) Appropriated Amount (FY 1995 Adjustment to FY 1996 Adjustment to FY 1996 Adjustments to Budget A car (FY 1997) since FY 1996 President's Bu get	F <u>Y 1996</u> 0	FY 1997 0 4867 4867			
Funding: New Start in FY 97 Immary EY 1995 11594 29076 erminal Mod 0 0	FY 1997 FY 1998 14010 11739 3365 3346	EY 1999 12126 5 949	FY 2000 FY 2001 26306 27239 0 0	O)	To Total Compl Cost Cont Cont
D. Schedule Profile 1 2 3 4 Award CIBS-M Contract Preliminary Design Review Critical Design Review Prototype Test	FY 1996	4 X	FY 1997 2 3 X X	4 X	
Project D702	Page 2 of 3 Pages			Exhibit R-2 (PE 0604739A)	39A)
	830				



RDT&E PROGRAM ELEMENT/	/PROJECT COST BREAKDOWN (R-3)	COST BR	EAKDO	WN (R-3		DATE March 1996	966	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	nent	PE NUMBER AND TITLE 0604739A Integ	AND TITLE A Integra	ated Broad	lcast Servi	D TITLE Integrated Broadcast Service - Modules	PROJECT D702	
A. Project Cost Breakdown Hardware Development Software Development Test Project Management Total B. Budnet Acquisition History and Planning Information	FY 1995	<u>5</u> FY 1996	966	FY 1997 2828 1023 811 205 4867				
Performing Organizations Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity Vehicle Date EAC	g Project y Office	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	o Total	ਰ ਸ਼
Product Development Organizations TBS C/CPFF OCT 96 TBS	S 9250	0	0	0	4662	Cont	ıt Cont	nt
Support and Management Organizations CECOM Test and Evaluation Organizations: None			0	0	205			· · · · · · · · · · · · · · · · · · ·
Government Furnished Property: N/A Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project					4662 205 4867	CONT	T CONT	
Project 17702	P	Page 3 of 3 Pages	SZ		Exhik	Exhibit R-3 (PE 0604739A)	()	
110,000		931						

RDT&E BUDGET ITEM JUS	FEM JUS	TIFICAT	FION SE	HEET (R	TIFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	96
ВUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	Developm	ent	PE NU 060	PE NUMBER AND TITLE 0604740A Tacti Engineering De	PE NUMBER AND TITLE 0604740A Tactical Surveillance System - Engineering Development	urveillar	ice Syste	- m s		
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	2049	2918	0	0	0	0	0		0	147289
D662 Tactical Surveillance System - Eng Dev	2049	0	0	0	0	0	0		0 -	147289
D661 Suite of Surviability Inhancement Systems	0	2918	0	0	0	0	0		- 0	2918
Mission Description and Budge: "Institication: In FY 1995 and prior, this PE supported engineering development work directed at meeting the deep intelligence and targeting needs of nactical comman." and in Field Manual 100-5 and under Airland Battle tactics, to fight out-numbered and win. Specific tactical imagery exploitation strales and development. For the Army's Tactical Exploitation of National Capabilities (TENCAP). The projects in this PE supports research efforts in the engineering and manufacturing development; phases of the acquisition strategy and is therefore correctly placed in Budget Activity 5.	stification: In FY 1995 and prior, this PE supported engineering development work directed at meeting the deep intelligence stated in Field Manual 100-5 and under Airland Battle tactics, to fight out-numbered and win. Specific tactical imagery are the Army's Tactical Exploitation of National Capabilities (TENCAP). The projects in this PE supports research efforts in the set acquisition strategy and is therefore correctly placed in Budget Activity 5	95 and prior, al 100-5 and tical Exploit cquisition str	this PE supunder Airlaration of Natiarategy and is	ported engin nd Battle taci ional Capabi i therefore cc	tics, to fight tlities (TENC orrectly place	lopment wor out-number AP). The pred in Budger	k directed a ed and win. rojects in thi t Activity 5	t meeting the Specific tags PE suppor	e deep intel tical imager ts research e	igence and y fforts in

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Page 1 of 8 Pages

Exhibit R-2 (PE 0604740A)



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION S	HEET (R	-2 Exhil	bit)	'n	DATE	March 1996	9
вирдет Астійіту 5 - Engineering and Manufacturing Development	Jevelopm	ent	PE N 060	PE NUMBER AND TITLE 0604740A Tactical Surveil Engineering Development	пт <u>г</u> actical S Develop	urveillan ment	PE NUMBER AND TITLE 0604740A Tactical Surveillance System - Engineering Development		a 0	РРОЈЕСТ D662
Able of the contract COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D662 Tactical Surveillance System - Eng Dev	2049	0	0	0	0	0	0		0	147289

development effort was funded in FY 1993 with Military Exploitation of Reconnaissance and Intelligence Technology (MERIT) funds. This project also provides technical exploited imagery products to the field commander. The CSARP processes the signals from Synthetic Aperture Radars (SAR). The ETRAC contains the DoD CSARP and support are moved to PE 0305154D, DARP. In a parallel action, the support efforts remaining in this project were consolidated under Project D909 beginning in FY 1996. is a C-130 drive on/off system that receives inputs from various platforms, converts the SAR to a visual image, and is capable of stand alone contingency operations. These systems will provide direct operational access to National and theater imagery in near-real-time to provide critical, deep target intelligence support to tactical commanders intelligence and targeting needs of tactical commanders, as stated in Field Manual 100-5 and under Airland Battle tactics, to fight out-numbered and win. Specific tactical sensor interfaces, modernize the existing Modernized Imagery Exploitation Systems (MIES), perform engineering development of the hardware of the Enhanced Tactical Radar Correlator (ETRAC) and DOD's Common Synthetic Aperture Radar Processor (CSARP), and provide program management support to the Joint Services Imagery and engineering support efforts to MIES and ETRAC from the Topographic Engineering Center (TEC), Federally Funded Research and Development Centers (FFRDC), imagery exploitation studies and developments are under the Army's Tactical Exploitation of National Capabilities (TENCAP). This project includes efforts to maintain and Contractor Systems Engineering and Technology Assistance (SETA) activity. In FY 1995, all funds directly related to the development of MIES, ETRAC and JPO and to support contingency missions and low intensity conflicts. TENCAP Common Baseline addresses common subsystems, planned improvements, key activities and ongoing planned initiatives determined to have potential application to multiple TENCAP systems (including MIES and ETRAC that are funded under the DARP (PE Further details may be found in the Tactical Intelligence and Related Activities (TIARA) Congressional Justification Book, Volume II, and the TENCAP Master Plan. Processing System (ISIPS) Program Office (JPO). The MIES receives and processes imagery from National and tactical sources to generate intelligence reports and transmit, and display graphical representations to the battle space thereby saving communication bandwidth, manpower and time. The beta software portion of GSD 0305154D)). Graphic Situation Display (GSD), which is part of the Common Baseline effort, is a jointly funded program to develop a means to computer generate, A. Mission Description and Budget Item Justification: In FY 1994 and prior, this project supported engineering development work directed at meeting the deep

best commercial practices, and using commercial and government-off the shelf software, ASPO minimizes risk while maximizing efficiency. Strong user involvement and a environment emphasizing stable funding, low density acquisition, minimal use of MILSPECS, and managed competition. By tailoring existing technology, leveraging the robust operations and maintenance program and a vigorous P3I effort ensure programmatic success. Finally, dedicated cradle to grave Integrated Logistics Support (ILS) Acquisition Strategy: As pioneers in rapid acquisition, ASPO's success in delivering systems as those described above to warfighters can be directly attributed to an for TENCAP systems is accomplished through a coordinated effort by Government and contractor personnel and facilities.

Project D662

Page 2 of 8 Pages

Exhibit R-2 (PE 0604740A)

ROTRE BUDGET ITEM JUSTI	N JUST	IFICATI	ON SH	EET (R-	FICATION SHEET (R-2 Exhibit)	it)	Δ	DATE March 1996	40
BUDGET ACTIVITY 5 - Engineering ar∷ Manufacturing Developmen	velopme	ıt	PE NUN 0604 Engi	PE NUMBER AND TITLE 0604740A Tacti Engineering De	ре NUMBER AND TITLE 0604740A Tactical Surveil Engineering Development	urveillan nent	PE NUMBER AND TITLE 0604740A Tactical Surveillance System - Engineering Development		РRОЈЕСТ D662
 FY 1995 Accomplishments: 759 Initiated installation of GSD into all Forward Area Support Termir 551 Continue 1 SETA to TENCAP program from FFRDC (Aerospace). 739 Continued contractor SETA support to TENCAP program. Total 2049 	to all Forwar program fron pport to TEN	d Area Supp. 1 FFRDC (A. CAP prograi	Area Support Terminal (FAST) systems. FFRDC (Aerospace). AP program.	l (FAST) sy.	stems.				
FY 1996 Planned Programmer (TENCAP) - Engineering	n this project transferred/consolidated under PE 0604766A (Project D909), Tactic	Vconsolidate ectronic Sur	d under PE veillance Sy	0604766A (stem, Engin	Project D90 cering Deve	9), Tactical lopment.	Exploitation c	Corts in this project transferred/consolidated under PE 0604766A (Project D909), Tactical Exploitation of National Space Capabilities	oilities
FY 1997 Planned Program: All efforts in this project transferred/consolidated under PE 0604766A.	ct transferred	/consolidate	d under PE ()604766A.					
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustments to FY 1995 Adjustments to FY 1995 Adjustments to FY 1995 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Currer, Budget Submit		FY 1995 2093 2049 2049	FY 1996 0	0 966	FY 1997				
Other December Common								, T	Total
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	Compl	Cost
RDTE, A Budget Activity 4 PE 0603766A Project D907	14519	27460	26060	23200	27094	28151	32668	Cont	Cont
TENCAL - AUV DEV PE 0603730A Project D560 Toot Sum Sug A 40 Day	11481	0	0	0	0	0	0		
RDTE, A Budget Activity 5 PE 0604766A Project D909 TENCAP - Eng Dev	18811	23861	15758	20631	21235	28299	27122	Cont	Cont
RDTE, D Budget Activity 7. Project D662			Page 3 of 8 Pages	Pages			Exhibit	Exhibit R-2 (PE 0604740A)	





RDT&F RIDGET ITEM INSTIFICATION SHEET (R-2 Exhibit)	FM IUS	LIFICAT	HS NOI	EET (R.	-2 Exhit]£		DATE	March 1996	
BUDGET ACTIVITY			PE NU	PE NUMBER AND TITLE	TLE				PRO	PROJECT
5 - Engineering and Manufacturing Developm	evelopme	ent	060 Eng	1740A Taine	0604740A Tactical Surveil Engineering Development	urveillan ment	0604740A Tactical Surveillance System - Engineering Development		D662	62
C. Other Program Funding Summary PE 0305154D Project D531.	FY 1995 39313	FY 1996 42737	FY 1997 47780	FY 1998 35264	FY 1999 13750	FY 2000 13824	FY 2001 13723	:	To <u>Compl</u> Cont	Fotal Cost Cont
DARP Other Procurement, Army, OPA-2 BZ 7315 TENCAP BA 0329 DARP Procurement, Defense Wide 0305154D, DARP	4636 2411 51534	4473 0 80822	1758 0 98486	1705 0 94583	1758 0 76123	4678 0 72124	13936 0 67173		N/A Cont	N/A Cont
D. Schedule Profile Complete Development and Field 3rd MIES Character Complete Co	FY 1995 2 3	4 ×	1 2 F	FY 1996 2 3	4 —	FY 1997 2 3	7- E			
Project D662			Page 4 of 8 Pages	8 Pages		!	Exhibit	: R-2 (P	Exhibit R-2 (PE 0604740A)	
			0							

RDT&E PROGRAM ELEMENT/PROJ	JECT CC	ST BREAKI	ROJECT COST BREAKDOWN (R-3)	DATE March	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	8 O II	PE NUMBER AND TITLE 0604740A Tactical Surveil Engineering Development	ENUMBER AND TITLE 0604740A Tactical Surveillance System -	- u	PROJECT D662
A. Project Cost Breakdown	FY 1995	FY 1996	FY 1997		
Common Baseline (*1)	759	0	0		
FERDC (*1, *2)	551	0	0		
System Engineering (Contractor) (*1, *2)	739	0	0		
Total A settler	2049	0	0		

(*1) In FY 96 and beyond, this PE/Project is consolidated under PE 0604766A (TENCAP-Eng Dev), Project D909 (Tactical Electronic Surveillance System - Eng Dev). (*2) In FY 95, these funds support the system being developed under PE 0305154D (DARP), P531.

B. Budget Acquisition History and Planning Information: Not Applicable.

Page 5 of 8 Pages

Project D662

Exhibit R-3 (PE 0604740A)





RDT&E BUDGET ITEM JUS	EM JUS	TIFICA.	TION S	TIFICATION SHEET (R-2 Exhibit)	-2 Exhi	bit)	O.	DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	Jevelopm	ent	PE NI 090 Enc	PE NUMBER AND TITLE 0604740A Tactical Surveil Engineering Development	⊓⊓∟E 'actical S । Develop	urveillan	E NUMBER AND TITLE 0604740A Tactical Surveillance System Engineering Development	<u>.</u>	a. u	РРОЈЕСТ D661
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D661 Suite of Surviability Inhancement Systems	0	2918	0	0	0	0	0		0	2918

aviation platforms. Initially, SSES will consist of Laser Warning Receiver (LWR), display, and software that is linked to the vehicle on board smoke systems. The system An Mission Description and Budget Item Justification: The SSES program is a Horizontal Technology Integration (HTI) initiative to develop, produce and apply a suite alerts the vehicle crew to a variety of laser threats and the direction of those threats. Studies and recent field exercises with non-optimized LWRs indicates that the LWR survivability of combat, command and control and selected tactical vehicles. SSES takes advantage of hit avoidance technologies already developed and produced for of electronic sensors and countermeasures to the Army's and Marine Corp's ground vehicle systems. It focuses on the near-to-mid term opportunities to improve the will significantly improve crew and vehicle survivability and situational awareness.

authority. SSES is a two phase program with the first phase consisting of procuring and modifying aviation LWRs to validate performance requirements, and the second phase consisting of the integration of a LWR into databussed and hardwired ground vehicle systems. In FY 96 the focus will be on modification of an existing PM-AEC Acquisition Strategy: This program is an Acquisition Category III (ACAT III) Program with the Program Executive Officer (PEO) servicing as the milestone decision contract to purchase LWRs for modification and testing.

FY 1995 Accomplishments: Project not funded.

FY 1996 Planned Program:

- 2832 LWR modification and testing
 - 66 SBIR/STTR
- 20 Revised economic assumption not available for execution
- otal 25

FY 1997 Planned Program: Project not funded.

Page 6 of 8 Pages 837

Project D661

Exhibit R-2 (PE 0604740A)

RDT&E BUDGET ITEM JUSTIFI	ICATION	FICATION SHEET (R-2 Exhibit)	2-2 Exhik	oit)	DATE	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	d) 1	PE NUMBER AND TITLE 0604740A Tactical Surveil Engineering Development	TITLE Tactical St g Develop	PE NUMBER AND TITLE 0604740A Tactical Surveillance System - Engineering Development	ystem -	PROJECT D661
nary jet (FY 1996) 7 1995)	FY 1995	FY 1996 0	FY 1997			
Adjustments to FY 1995 Appropriated Amount (FY 1996) Adjustments to FY 1996 Adjustments to Budget Year (FY 1997) since		2948 -30				
FY 1996 President's Budget Current Budget Submit		2918				
Change Summary Explanation: Eunding: FY 1996: (-30) Revised economic assumptions revised inflation rate.	lation rate.					
C. Other Program Funding Summary: Not Applicable.						
D. Schedule Profile 1 2 3	4	FY 1996	4	FY 1997	4	
Procure AN/AVRZAS & modify Initiate A-kit development Conduct system integration lab tests		o ×	· ××			
Project D661	Page	Page 7 of 8 Pages			Exhibit R-2 (Exhibit R-2 (PE 0604740A)
		838				





RDT&E PROGRAM ELEMENT/PROJECT (PROJECT COST BREAKDOWN (R-3)	OWN (R-	3) DATE	TE March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604740A Tactical Surveillance System - Engineering Development	cal Surveill	ance System		PROJECT D661
A. Project Cost Breakdown Primary Hardware Development/Contractor Program Management SBIR/STTR Revised economic assumption not available for execution Primary A-kit development/contract Total B. Budget Acquisition History and Planning Information: Not Applicable Government Furnished Property: Not Applicable Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Subtotal Test and Evaluation Subtotal Support and Management Subtotal Project Total Project	FY 1996 1440 252 120 66 20 1020 2918 Prior to FY 1995 FY 1995	FY 1997 FY 1996 2460 120 252 66 20 2918	FY 1997	Budget to Complete	o Total
Project D661	Page 8 of 8 Pages		Exhibit R	Exhibit R-3 (PE 0604740A)	A)
	000				

RDT&E BUDGET ITEM JUS	EM JUS	TIFICA.	TION SI	IEET (R	TIFICATION SHEET (R-2 Exhibit)	bit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Jevelopm	ent	PE NU 060	PE NUMBER AND TITLE 0604741A Air D Infelligence - Fr	PENUMBER AND TITLE 0604741A Air Defense Command, Control,	se Comm	and, Co	ntrol,		
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	29071	20249	20516	14944	2042	6859	7744		Continuing	Continuing
D126 FAAD Command and Control Engineering Development	28940	19281	20516	14944	2042	6829	7744		Continuing	Continuing
D146 Air Defense Tactical Operations Center	0	896	0	0	0	0	0		Continuing	Continuing
D2JT FAAD C2 Operational Test	131	0	0	0	0	0	0		0	131

Sensor (LSDIS), Global Positioning System (GPS), Airborne Warning and Control System (AWACS), Ground Based Sensor (GBS), and the Army Battle Command System System (EPLRS), Joint Tactical Information Distribution System (JTIDS), Single Channel Ground and Air Radio System (SINCGARS), Light and Special Division Interim disseminate target information, air threat warning, and command and control information to all FAAD weapons (AVENGER, Bradley STINGER Fighting Vehicle (BSFV), area air defense automated information to support the command and control decision process at various levels of command. The mission is to collect, digitally process and Mission Description and Budget Item Justification: The Forward Area Air Defense Command, Control and Intelligence (FAAD C2I) System provides critical forward (ABCS) architecture. The projects in this Program Element support research efforts in the engineering and manufacturing development phases of the acquisition strategy engagement operations software using Common Hardware/Software (CHS), Standard Integrated Command Post System (SICPS), Enhanced Position Location Reporting Manportable Air Defense System (MANPADS), and combined arms). Unique FAAD C2I software will provide the mission capability by integrating FAAD C2 and are therefore correctly placed in Budget Activity 5.

Page I of 12 Pages

Exhibit R-2 (PE 0604741A)



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TEM JUS	TIFICA	TION SE	HEET (R	2-2 Exhi	bit)	Ω	DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	Jevelopm	ent	PE NU 060 Inte	PE NUMBER AND TITLE 0604741A Air D Intelligence - Er	тт <u>ге</u> Vir Defen: - Engine	se Comn ering De	PE NUMBER AND TITLE 0604741A Air Defense Command, Control, Intelligence - Engineering Development	rol,	.	РRОЈЕСТ D126
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D126 FAAD Command and Control Engineering Development	28940	19281	20516	14944	2042	6829	7744		Continuing	Continuing Continuing
A. <u>Mission Description and Justification:</u> Project D126 - FAAD Command and Control Eng Dev: The Forward Air Defense Command and Control (FAAD C2) System is an automated system deployed with FAAD weapons to provide accurate and timely command, control and targeting information for the weapon systems. The	ct D126 - FA	AD Comma provide acc	ind and Com	ntrol Eng De	ev: The Formed and, control	ward Air De	AD Command and Control Eng Dev: The Forward Air Defense Command and Control (FAAD C2) provide accurate and timely command, control and targeting information for the weapon systems. The	nd and Coor the we	ontrol (FAAD apon systems	C2) The

system utilizes non-developmental item sensors, computers, displays and interface hardware integrated with data communication equipment. It automates mission related functions and uses the Single Channel Ground and Airborne Radio Systems (SINCGARS) for voice and the Army Data Distribution System (ADDS) for data. Acquisition Strategy: The acquisition strategy relies heavily on Non-developmental items (NDI) and evolutionary software development to rapidly overcome our current air defense command, control and intelligence deficiencies and to keep pace with the advancing technologies. The concept of evolutionary software development is being followed and will be accomplished in Blocks - I, II, III and IV. Blocks I and II have been completed. Block III is currently being developed.

FY 1995 Accomplishments:

- Conducted Block II IOTE
- Continued Block III Software Development 17433
- Prepared for Milestone III Decision Review -- Heavy Division
 - Prepared for First Unit Equipped -- Heavy Division
- Force Projection Tactical Operations Center (FPTOC) efforts 1499
 - Congressionally directed Sensor Study 2000
 - 28940 Total

FY 1996 Planned Program:

- Continue Block III Software Development 18000
 - Prepare for Block III Users Test 400
- Prepare for Technology Insertion 466
- Revised Economic Assumptions Not available for execution
- SBIR/STTR

Total

Project D126

Page 2 of 12 Pages

Exhibit R-2 (PE 0604741A)

RDT&E BUDGET ITEM JUST		FICATION SHEET (R-2 Exhibit)	EET (R-	2 Exhib	it)	DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ment	PE NUN 0604 Intel	PE NUMBER AND TITLE 0604741A Air D Intelligence - Er	ռե r Defens Enginee	e Comm ring Dev	PENUMBER AND TITLE 0604741A Air Defense Command, Control, Intelligence - Engineering Development		РРОЈЕСТ D126
 FY 1997 Planned Program: 1877 Conduct Block III Users Test (UT) 18339 Continue Block III Software Development 300 Prepare for Block III Development Test (DT) Total 20516 	ent (DT)							
B. <u>Project Change Summary</u> Previous President's Budget (FY %) Appropriated Amount (FY 95)	FY 1995 28002 27491		<u>r 1996</u> 21035	F 1997 21143				
Adjustments to FY 95 Appropriated Amount (FY 96) Adjustments to FY 96 Adjustments to Budget Year (FY97) since	+1449		19474 -193	-627				
Fr yo rrestdent's Budget Sulmit	28940		19281	20516				
Change Summary Explanation Funding: FY 95 (+1449) for FPTOC efforts FY 96 (-1200) Congressional cut and (-193) the portion of the program that has been proposed for rescission FY 96 (-1207) reduction due to revised inflation rates)) the portion of tion rates	the program	that has bee	n proposed	for rescissic	Ĕ		
Summary FY	5 FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	To Compl	Total Cost
RD1E, DE10 - FAAD GBS	60 61882 66 39080 17 1473	51226 36761 1260 2552	44715 16070 1588 3614	42154 11978 886 5370	60530 0 0 5572	64476 0 0	CONT 0 0	CONT 128067 8475 18214
Project D126		Page 3 of 12 Pages	2 Pages			Exhibit R-	Exhibit R-2 (PE 0604741A)	
		:						





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhibit)	March 1996
· L	PE NUMBER AND TITLE 0604741A Air Defense Command, Control, Intelligence - Engineering Development	PROJECT D126
D. Schedule Profile FY 1995 Conduct Block II fOreE Milestone III Decision for Heavy Divisions Complete Block II Software Development First Unit Equipped Initial—Heavy Division Conduct Block III Users Test Condu	FY 1996 FY 1997 1 2 3 4 1 2 3 4 X* X X	
Project D126	Page 4 of 12 Pages	Exhibit R-2 (PE 0604741A)

RDT	RDT&E PROGRAM ELEMENT/P	RAM ELE	MENT/PRO	JECT C	SOST BI	REAKDC	ROJECT COST BREAKDOWN (R-3)	3) DATE	March 1996	9
вирсет Астіvіту 5 - Engineering and Manufacturing Development) and Manufa	acturing D	evelopment		PE NUMBER AND TITLE 0604741A Air D Intelligence - Er	AND TITLE I A Air Der nce - Eng	fense Cor ineering l	PENUMBER AND TITLE 0604741A Air Defense Command, Control, Intelligence - Engineering Development		РКОЈЕСТ D126
A. Project Cost Breakdown Major Contracts Support Contract PMO/In-house/Other GFE/Testing Total	zakdown			FY 1995 18999 1000 2494 6447 28940	<u>a</u>	FY 1996 16000 500 2581 200 19281	FY 1997 15990 1000 2516 1010 20516			
B. Budget Acquisition History and Planning Information Performing Organizations Contractor or	tion History and zations Contract	Planning Info	ormation		Ē					
Government Performing <u>Activity</u>	Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performin g Activity <u>EAC</u>	Project Office EAC	1 otal Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	Total Program
TRW C/CPIF TRW SS/CPIF TRW SS/CPIF TRW SS/CPIF TRW SS/T&M Matrix (RDEC) MIPR TRDC TBD	C/CPIF SS/CPIF SS/CPIF SS/T&M MIPR Misc Contrs TBD	Sep 86 Aug 92 Sep 94 Sep 93	178000 50106 53194 4900	178000 50106 53194 4900	176461 24806 300 0 1132	7100 7400 1000 1031 1499 2000	14000 2000 1227	14000 1990 1173	CONT	176461 31906 CONT CONT CONT 1499 2000
(Sensor Study) Support and Management Organizations SETA, CAS In-House/ Other	gement Organiza SS/CPFF	ations Feb 91	9400	9400	9879	1000	1854	2343	CONT	10879 CONT
ADATD, Ft Bliss OPTEC					2440	6247		810	CONT	CONT 2000
Project D126				Pag	Page 5 of 12 Pages	ges		Exhibit R-3	Exhibit R-3 (PE 0604741A)	





RDT&E PROGRAM ELEMENT/PROJECT	COST BREAKDOWN (R-3)	REAKDO	WN (R-	3) DATE	March 1996	96
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604741A Air D Intelligence - Er	AND TITLE A Air De nce - Eng	fense Cor	PE NUMBER AND TITLE 0604741A Air Defense Command, Control, Intelligence - Engineering Development	:	PROJECT D126
Government Furnished Property Contract Method/Type Award or Item Or Funding Obligation Delivery Description Date	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Property CHS MIPR 1988 Support and Management Property: None Test and Evaluation Property: None	200	200	200	200	CONT	CONT 6000
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	208899 11330 4440 224669	20230 2463 6247 28940	17427 1854 19281	17363 2343 810 20516	CONT	CONT CONT CONT CONT
Project D126	Page 6 of 12 Pages	ses		Exhibit R-3	Exhibit R-3 (PE 0604741A)	

RDT&E BUDGET ITEM JUSTI	EM JUS	TIFICA	TION SE	HEET (R	IFICATION SHEET (R-2 Exhibit)	bit)	DATE	March 1996	9
вирсет Астіёт∀ 5 - Engine∋ring and Manufacturing Developmer	evelopm	ent	PE NU 060 1nte	PE NUMBER AND TITLE 0604741A Air D Intelligence - En	птс ir Defens - Engine	se Comr ering Dev	E NUMBER AND TITLE 3604741A Air Defense Command, Control, intelligence - Engineering Development		РРОЈЕСТ D146
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
D146 Air Defense Tactical Operations Center	0	968	0	0	0	0	0	Continuing	Continuing Continuing

finances the direct costs of developing an ADTOC that will be used to provide a single system command, control, communications, and intelligence system that will support automated command post (CP) and fire direction center (FDC) capability that will fully interoperate with all US Army and Joint C3I and Air Defense systems, and selected systems of allied nations. These capabilities will be incorporated in an Air Defense Tactical Operations Center (ADTOC). The ADTOC must incorporate air defense and the requirements of any air defense weapon system at any echelon of Corps and below. This is not a new start. These efforts were previously funded under Project D126. A. Mission Description and Justification: Project D146 - Air Defense Tactical Operations Center: Air Defense Artillery (ADA) requires a standardized, integrated, theater missile defense force operations and engagement operations functions into a single command, control, communications and intelligence system. Project D146

Acquisition Strategy: The acquisition strategy relies heavily on NDI and existing modules of Army/Joint/DoD software which will be integrated to provide a modular, reconfigurable, standard digital ADTOC for all air defense units, battery to brigade. Brigade ADTOCs will be automated first with expansion to all weapon systems.

FY 1996 Planned Program:

- 944 Development and integration studies
- 22 SBIR/STTR
- 2 Revised Economic Assumptions Not available for execution

Total

FY 199 <u>6</u> 995		978	-10			896	
FY 1995							
B. Project Change Summary Previous President's Budget (F'7 96)	Appropriated Amount (FY 95) Adjustments to FY 95	Appropriated Amount (FY 96)	Adjustments to FY 96	Adjustments to Budget Year (FY97) since	FY 96 President's Budget	Current President's Budget Submit	



Page 7 of 12 Pages

Project D146

Exhibit R-2 (PE 0604741A)



RDT&E BUDGET ITEM JUSTIFICATIO	TIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604741A Air Defense Command, Control, Intelligence - Engineering Development	PROJECT D146 D146 int
Change Summary Explanation: Funding: FY 96 (-10) the portion of this program that has been proposed for rescission.	or rescission.	
C. Other Program Funding Summary Not Applicable D. Schedule Profile 1 2 3 4 1	FY 1996 FY 1997 2 3 4 1 2 3 4	
ADTOC Development The Property of the Property		
* Denotes Completed Milestone		
F-18		
The second and the se		
Project D146	Page 8 of 12 Pages Exhi	Exhibit R-2 (PE 0604741A)

847

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BR	EAKDO	WN (R-3) DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604741A Air E Intelligence - Er	AND TITLE A Air Def ICe - Engi	ense Con neering [PENUMBER AND TITLE O604741A Air Defense Command, Control, Intelligence - Engineering Development		РRОЈЕСТ D146
A. Project Cost Breakdown Development Efforts Total R. Budget Acquisition History and Planning Information	FY 1995 FY 1996 968 968		FY 1997			
Performing Organizations Contractor or Contract Government Method/Type Award or Performing Project Performing or Funding Obligation Activity Office Activity Vehicle Date EAC EAC	ct Total se Prior to C FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	Total <u>Program</u>
Misc Contra PWD Support and Management Organizations: None Test and Evaluation ') rganizations: None			896		CONT	CONT
Government Furnished Property: Norte Subtotal Product Development Subtotal Support and Management			896		CONT	CONT
Subtotal Test and Evaluation Total Project			896		CONT	CONT
Project D146	Page 9 of 12 Pages	es		Exhibit R-3 (Exhibit R-3 (PE 0604741A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICAT	IS NO!	HEET (R	2-2 Exhi	bit)		DATE M	March 1996	99
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Jevelopm	ent	PE NI 060 Inte	PE NUMBER AND TITLE 0604741A Air I Intelligence - Er	PENUMBER AND TITLE 0604741A Air Defense Command, Control, Intelligence - Engineering Development	se Comn ering De	nand, Co velopme	ntrol, nt	-	PROJECT D2JT
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D2JT FAAD C2 Operational Test	131	0	0	0	0	0	0		0	131
A. Mission Description and Justification: Project D2JT - Forward Area Air Defense Command and Control Operational Test: This project finances the direct costs of planning and conducting operational testing and evaluation of the Forward Area Air Defense Command, Control, and Intelligence (FAAD C2I) by the Operational Test and Evaluation Command (OPTEC). The FAAD C2I is an Acquisition Category (ACAT) IC system with a dedicated Initial Operational Test and Evaluation (IOTE) in FY 1995 in support of Milestone III full production decisions. Operational testing is conducted under conditions, as close as possible, to those encountered in combat with typical user troops trained to employ the system. OPTEC provides Army leadership with an independent test and evaluation of effectiveness and suitability of the system. Future fiscal years will be reprogrammed when system information becomes available. Acquisition Strategy: Not applicable	et D2JT - Folevaluation of 21 is an Acquasions. Operable providem information	ward Area . ward Area . the Forward isition Catego . tional testing . ss Army lead . on becomes a	Air Defens Area Air D ory (ACAT y is conduct ership with vailable.	e Command efense Comi) IC system ed under coi an indepenc	l and Contro mand, Contro with a dedice nditions, as c lent test and	ol Operation ol, and Intell tted Initial C lose as poss evaluation o	nal Test: Ti igence (FA/ perational 1 ible, to those f effectivence	his project fin AD C2I) by ti Test and Eval e encounterects and suital	nances the dhe Operation luation (IOT din combat bility of the	lirect costs nal Test E) in FY with system.
FY 1995 Accomplishments: 131 Conducted FAAD C2I IOTE Total 131 Secretary Conference of the conference	ي ي									
B. Project Change Summary Previous President's Budget (FY 96) Appropriated Amount (FY 95) Adjustments to FY 95 Adjustments to FY 96 Adjustments to FY 96 Adjustments to Budget Year (FY 97) since FY 96 President's Budget Current President's Budget Submit		FY 1995 134 131 131		FY 1996	FY 1997					
Project D2JT			Page 10 of 12 Pages	°12 Pages			Exhib	Exhibit R-2 (PE 0604741A))604741A)	

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RDT& BUDGET ITEM JUST	TEM JUST	TIFICAT	IS NO!	HEET (R	IFICATION SHEET (R-2 Exhibit)	Œ	DATE	E March 1996	1996	
вироет астіліту 5 - Engineering and Manufacturing Developme	Developme	ent	PE NI 060	PE NUMBER AND TITLE 0604741A Air D Intelligence - En	⊓⊓∟E .ir Defens - Engine€	e Comm	PE NUMBER AND TITLE 0604741A Air Defense Command, Control, Intelligence - Engineering Development		PROJECT D2JT	CT_
C. Other Program Funding Summary RDTE, A 0604820 Radar Development - FAADC31 Oper Test - D21T	<u>FY 1995</u> 6109	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	3	To <u>Compl</u>	Total <u>Cost</u> 6109
P. Schedule Profile FAADC2 IOTE *Milestone Complete	FY 1995	4	1 F 2	FY 1996 2 3	4	FY 1997 2 3	Γ. ε. 4			
			Page 11 o	Рлав 11 оf 12 Радве			H Ashibit	Exhibit R-2 (PE 0604741A)	(41A)	
Project D2J1			I uke 11 v	121 4500					7, 7,	





RDT&E PROGRAM ELEMENT/PRO.	PROJECT COST BREAKDOWN (R-3)	r BREAKD	OWN (R-		DATE	March 1996	(6)
вирсет Астилту 5 - Engineering and Manufacturing Development	PE NUI 060	PE NUMBER AND TITLE 0604741A Air Defense Command, Control, Intelligence - Engineering Development	efense Cor gineering [nmand, Con Jevelopmen	itrol, it		PROJECT D2JT
A. Project Cost Breakdown Testing Total B. Budget Acquisition History and Planning Information	FY 1995 131 131	FY 1996	FY 1997				
Award or Performing Obligation Activity Date EAC s: None ations: None	Project Total Office Prior to EAC FY 1995	tal to 95 FY 1995	FY 1996	FY 1997.		Budget to Complete	Total <u>Program</u>
Test and Evaluation Organizations **OPTEC** **Control of the control of the con		131					131
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project		131 131					131
	;	,			((1	
Project D2JT	Page 12 of 12 Pages	12 Pages		EXHIDI	K-3 (P	Exhibit K-3 (PE 0604/41A)	

			10 NO		IFICATION SHEET (R-2 EXIIIDIT)	oit)		2	March 1996	9
вироет АСТУІТУ 5 - Engineering and Manufacturing Developmer	velopmo	ent	PE NU 060 Dev	PE NUMBER AND TITLE 0604746A Auto Development	E NUMBER AND TITLE 0604746A Automatic Test Equipment Development	: Test Eq	uipment			
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	16785	15015	2793	2770	2733	4802	4773	0	Continuing	Continuing
DL10 Electro-Optic (EO) Test Equipment	2924	0	0	0	0	0	0	0	0	24190
DL59 Diagnostic/Expert System Development	8000	5288	2793	2770	2733	4802	4773	0	Continuing	Continuing
D537 Integrated Family of Fest Equipment	5861	9727	0	0	0	0	0	0	0	67101

electronic displays which will reduce the Army's investment in test program sets and in maintenance publications and procedures. These projects are appropriately assigned missiles, aircraft, and combat vehicles. The Integrated Family of Test Equipment, with improvements as required to keep pace with technologies employed in the supported nondevelopmental items to satisfy requirements for manual and semi-automatic general purpose test, measurement, and diagnostic equipment at the division level. Expert weapon systems, can meet these mission requirements into the next century. This program element further provides for identification and evaluation of the capabilities of to Budget Activity 5 since they provide for engineering and manufacturing development of new ATE systems to meet the test and diagnostic requirements of the Army's systems and artificial intelligence applications are also being developed under this program element to provide paperless maintenance manuals/procedures and battlefield Mission Description and Budget Item Justification: This program element provides for development of modular, reconfigurable automatic test equipment (ATE) to technologies. An urgent requirement exists at all levels of maintenance for ATE to support complex communications and electronics-intensive commodities such as satisfy test and 'ault isolation requirements across equipment commodities and to meet operational readiness needs of sophisticated systems and state-of-the-art weapon systems and for incorporation of state-of-the-art technologies into the Army's ATE systems.

Page 1 of 12 Pages

Exhibit R-2 (PE 0604746A)





RDT&E BUDGET ITEM JUS	EM JUS	TIFICA	TION SI	TIFICATION SHEET (R-2 Exhibit)	-2 Exhi	bit)		DAIE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	Jevelopm	ent	D 90	PE NUMBER AND TITLE 0604746A Auto	הודוב vutomatic	Test Eq	PE NUMBER AND TITLE 0604746A Automatic Test Equipment		۵. ب	PROJECT DL10
			De	Development	ıt					
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DL10 Electro-Optic (EO) Test Equipment	2924	0	0	0	0	0	0	0	0	24190

measured at the organizational levels because EO test equipment is not available. The test equipment being developed under this project will fill these voids in the field and and diagnostic shortfalls and is in concert with Army and Department of Defense (DOD) policies on standard automatic test equipment. This program has been restructured weapon systems. Currently, electro-optic (EO) testing requirements in the forward areas are met with a multitude of non-standard, semi-automatic, or manual testers which vary greatly in capability, reliability, weight, and cost, and require very highly skilled operators and maintainers. Serious deficiencies exist in EO testing capabilities in the field. There is no automatic EO testing capability at organizational and direct support levels for certain weapon systems and critical parameters of other systems cannot be replace outdated, deficient; and difficult to maintain equipment such as the Land Combat Support System (LCSS). This new equipment will alleviate the existing EO test A. Mission Description and Justification: Project DL10 - Electro-Optic Test Equipment: This project provides for development of state-of-the-art, technologically superior general purpose test equipment capable of performing fault isolation and failure diagnosis on electro-optical components and assemblies of the Army's major and continuing effort is funded under Project DL59 beginning in FY 1996.

Acquisition Strategy: When the necessary expertise and capacity are available within the DOD, services are ordered from the government source. Otherwise, commercial contracts are used. Equipment required for development projects is obtained by contract from the commercial supplier. Conversion of the LCSS test program sets (TPS) and development of the Contact Test Set-Electro-Optic Augmentation (CTS-EOA) were obtained through competitive contracts. Other services on this project were obtained from DOD sources,

FY 1995 Accomplishments:

- 851 Evaluated/validated EO test requirements and solutions
- 1784. Converted LCSS EO TPSs for use on Base Shop Test Facility
 - 289 Closed out CTS-EOA development

Total 2924

FY 1996 Planned Program: See Project DL59

FY 1997 Planned Program: See Project DL59

Project DL10

Page 2 of 12 Pages

Exhibit R-2 (PE 0604746A)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FRU JUST	LIFICAT	HS NOI	IEET (R	-2 Exhit)it)		DATE Mar	March 1996	
вироет Астіліту 5 - Engineering and Manufacturing Development	evelopme	nt	PE NU 060 , Dev	PE NUMBER AND TITLE 0604746A Auto Development	PE NUMBER AND TITLE 0604746A Automatic Test Equipment Development	Test Equ	uipment		PRC DI	PROJECT DL10
B. Project Change Summary Previous President's Budget Appropriated Value (FY 95) Adjustments to FY 95 Adjustments to Budget Year since FY 96 President's Budget Current Budget Estimate Submission	Budget	FY 1995 4740 4663 -1739 2924		F <u>Y 1996</u> 0 0	FY 1997 0					
C. Other Program Funding Summary	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001		To Compl	Total Cost
OPA2 Appropriation Integrated Family of Test Equipment (KA4100)	0	5832	0	0	14400	5834	1869		Cont'd	Cont'd
D. Schedule Frofile Complete COEA Complete CTS-3OA Developmental Testing Preproduction Hardware and IETM Delivery	FY 1995 2 3 X* X*	4 *	1 2 F	FY 1996 2 3	1	FY 1997 2 3	7 E			
Project DI.10			Page 3 of 12 Pages	2 Pages			Exhib	Exhibit R-2 (PE 0604746A)	04746A)	
0.12.00.00.00.00.00.00.00.00.00.00.00.00.00				C						



RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	GRAM EL	EMENT/PR(SJECT (SOST BE	REAKDO	JWN (R-		DATE March 1996	96
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	nufacturing [Development		PE NUMBER AND TITLE 0604746A Auto Development	AND TITLE A Autom ment	natic Test	PE NUMBER AND TITLE 0604746A Automatic Test Equipment Development		PROJECT DL10
A. Project Cost Breakdown Systems Engineering Software Development /Engineering Program Management Support Miscellaneous Total	ring		FY 1995 854 1784 107 179 2924		FY 1996	FY 1997			
B. Budget Acquisition History and Planning Information Performing Organizations Contractor or Contract Government Method/Type Award or Perform	and Planning Inf	<u>ormation</u> Performing	Project	Total					
Performing or Funding Activity Vehicle	Obligation Date	Activity <u>EAC</u>	Office <u>EAC</u>	Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	Total Program
Product Development Organizations Brown Intl Corp, C/CPIF	ations - 11Aug95	1784	1784		1784				1784
Funnsville, AL Pentastar Elec, Inc. C/FFP	FY 92-94	10487	10487	10487					10487
Huntsville, AL Other Contracts Gov't In-House	ing the			5349 5430	166 974				5515 6404
Government Furnished Property: Not Applicable	ty: Not Applicab	le		23010	2000				24100
Subtotal Product Development Subtotal Support and Mariagement Subtotal Test and Evaluation Total Project	ınt			21266	2924				24190
Project DI.10	Section of the sectio		Pag	Page 4 of 12 Pages	sə.		Exhibi	Exhibit R-3 (PE 0604746A)	
				220					

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION S	HEET (R	-2 Exhi	bit)		DAIE	March 1996	9
BUDGET ACTIVITY ਤਿ - Engineering and Manufacturing Developme।	Jevelopm	ent	PE NI 060 Dev	PE NUMBER AND TITLE 0604746A Automatic Test Equipment Development	ritle Vutomatic St	: Test Eq	uipment		L L	PROJECT DL59
COST ('n Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	- -	Cost to Complete	Total Cost

Continuing

Continuing

4773

4802

2733

2770

2793

5288

8000

DL59 Diagnostic/Expert System Development

A. Mission Description and Justification: Project DL59 - Diagnostic/Expert System Development: This project supports full-scale development of expert/diagnostic systems and general purpose test equipment and evaluation/testing of nondevelopmental items (NDI) for support of Army weapon systems. These systems and equipment are required to overcome existing deficiencies and voids in organic test and diagnostic capabilities. The project provides for development of diagnostic technologies and technological requirem sts; market surveys of commercially available general purpose test equipment to determine applicability to Army requirements; evaluations and Applications of state-of-the-art technologies in expert systems and artificial intelligence, paperless maintenance and troubleshooting manuals, electro-optics displays for validations of diagnostic oftware on targeted hardware; and development/evaluation of test programs sets (TPS) for use with standard automatic test equipment. state-of-the-art general nurpose test equipment to support the Army's weapon systems; improvement of general purpose test equipment to meet new testing and battlefield use, and soldier-friendly equipment will be developed to meet identified requirements. Acquisition Strategy: When the necessary expertise and capacity are available within the DOD, services are ordered from the government source. Otherwise, commercial contracts are used. Equipment required for development projects is obtained by contract from the commercial supplier. Candidate NDI and commercial equipment are identified and evaluated through market surveys and bid sample testing.

FY 1995 Accomplishments:

- 4438 Con and development of TPSs for Kiowa Warrior Mast Mounted Sight and Control Display System
- levelopment of selected depot and factory level TPSs and on-system diagnostic enhancements for the Longbow Apache Cornp 2825
 - 'velopment of standard Hellfire System Test Set Comm
 - 8000

FY 1996 Planned Program:

- 1316 Test new Contact Test Set (CTS) hardware
- Test software for compatibility with new CTS and commence development of software tools for new CTS 1568
 - 140 Perform bench testing of NDI equipment
- Perform initial integration and testing of prototype Electro-Optic Test Facility 2140
 - 109
- Revised economic assumption not available for execution

Project DL59

Page 5 of 12 Pages

Exhibit R-2 (PE 0604746A)





RDT&E BUDGET ITEM JUS	USTIFICATION SHEET (R-2 Exhibit)	HS NOI	EET (R	2 Exhib	jį (DATE Marci	March 1996	
<u> </u> .⊆	pment	PE NUN 0604 Dev	PE NUMBER AND TITLE 0604746A Auto Development	PE NUMBER AND TITLE 0604746A Automatic Test Equipment Development	Test Eq	uipment		PROJECT DL59	ЕСТ 59
FY 1997 Planned Program: • 618 Test commercial instrumentation in CTS chassis • 330 Test new state-of-the-art commercial equipment for use in Army test equipment programs • 845 Continue integration and testing of Electro-Optic Test Facility • 600 Evaluate down-sized test equipment for field use • 340 Continue development of software tools for CTS Total 2793	TS chassis equipment for use ectro-Optic Test I or field use ols for CTS	in Army tes	t equipment	programs					
B. Project Change Summary Previous President's Budget Appropriated Value (FY 95)	FY 1995 7892 7726	FX	F <u>Y 1996</u> 5437	FY 1997 2878					
Adjustments to FY 95 Appropriated Value Appropriated Amount (FY 96) Adjustments to FY 96 Adjustments to Budget Year (FY97) since FY 96 PB Current President's Budget Submission	274 8000		5342 -54 5288	-85					
Change Summary Explanation: FY 96 Revised Economic Assumpti FY97 Revised Inflation Rates (-85)	Revised Economic Assumption (-54) Revised Inflation Rates (-85)	-54)							
C. Other Program Funding Summary FY 1995	995 FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	Ol	To Compl	Total <u>Cost</u>
OPA2 Appropriation Integrated Family of Test Equipment (K18400) (K51600) (KA4100)	41163 35761 12233 1953 0 5832	96 1410 0	4377 10644 0	17178 24398 14400	34937 11536 5834	49540 18761 1869	000	Cont'd Cont'd Cont'd	Cont'd Cont'd Cont'd
D. Schedule Profile: Not Applicable									
Project DL59		Page 6 of 12 Pages	2 Pages		-	Exhibi	Exhibit R-2 (PE 0604746A)	746A)	

ROT	RDT&E PROGRAM ELEMENT/P	RAM ELE	EMENT/PR	SJECT (SOST BE	EAKDO	ROJECT COST BREAKDOWN (R-3)		DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	and Monuf	acturing D	evelopment		PE NUMBER AND TITLE 0604746A Auto Development	AND TITLE A Autom ment	atic Test	PE NUMBER AND TITLE 0604746A Automatic Test Equipment Development		# ©	PROJECT DL59
A. Project Cost Breakdown	akdovn			FY 1995	FY 1996	966	FY 1997				
Systems Engineering	 ↓			737	2	2571	2288				
e Devel J	nt/Engineer			7231		892 1227	340				
Testing Miscellaneous				32	•	598	165				
Total				8000	ν,	5288	2793				
B. Budget Acquisition Vistory and Planning Information	ior : Tistory and	Planning Inf	ormation								
Persorming Organizations	zations										
Contractor or Government	Contract Method/Type	Award or	Performing	Project	Total						
	or Funcing	Obligation	Activity	Office	Prior to	2001	7001784	1007		Budget to	Total
Activity Vehicle December 1	Vehicle	<u>Date</u>	EAC	EAC	FY 1995	FY 1995	FY 1996	FX 1997		anaiduio a	riogram
McDonnell	SS/FFP	Apr96	4100	4100	2000	2100					4100
Douglas Corp., Huntington Beach,											
CA Honeywell: Inc.	/SS	Apr96	4675	4675	2337	2338					4675
Albuquerque, NM	66/CI		8225	8225	5400	2825					8225
Douglas Corp.,) (CI 41))								•
Mesa, AZ		- γ. 1 4 ,			35517	20	3490	1378		Cont'd	Cont'd
Gov't In-House					7543	717	1798	1415		Cont'd	Cont'd
			_								
Government Furnished Property: Not Applicable	shed Property:	Not Applicab	<u>ə</u>								
	Charles of a professor on 1 to 120.										
Project DI 59				Pag	Page 7 of 12 Pages	es		Exhil	bit R-3 (PE	Exhibit R-3 (PE 0604746A)	
					858						



RDT&F PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BE	REAKDO	WN (R-	<u></u>	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604746A Auto Development	AND TITLE A Autom	atic Test	PE NUMBER AND TITLE 0604746A Automatic Test Equipment Development		PROJEC DL59	PROJECT DL59
	Total Prior to FV 1995	FY 1995	FY 1996	FY 1997	Bud	Budget to Complete	Total Program
Subtotal Product Development	52797	8000	5288	2793	0		Cont'd
Subtotal Test and Evaluation	52797	8000	5288	2793	0	Cont'd	Cont'd
Total FtoJect							
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Cookers.							
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A CONTRACTOR OF THE CONTRACTOR							
COLUMN TO THE STATE OF THE STAT							
Project DL59	Page 8 of 12 Pages	sə		Exhib	Exhibit R-3 (PE 0604746A)	4746A)	
	020						

BUDGET ACTIVITY				, <u></u>		2	March 1996	9
5 - Engineering and Manufacturing Development	PE NU 060 Dev	PE NUMBER AND TITLE 0604746A Auto Development	пт <u>ге</u> Nutomatic nt	: Test Eq	те number And Title 0604746A Automatic Test Equipment Development		.	РRОЈЕСТ D537
COST (In Thousands) FY 1995 Actual Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D537 Integrated Family of Test Equipment 5861 9727	0	0	0	0	0	0	0	67101

ine replaceable units and screen shop replaceable units. Its pre-planned product improvement program upgrades both the software and the hardware. The hardware upgrade automatic test equipment that provides testing of electronics-intensive weapon systems at all maintenance levels. IFTE will automatically test and verify the operation of will be for inclusion of the latest commercially available virtual memory extension bus for instrumentation (VXI) technology as well as upgrades in the digital and radio A. Mission Description and Justification: Project D537 - Integrated Family of Test Equipment (IFTE): This project provides for development and upgrade of frequency areas to support new weapon systems. Program has been restructured and continuing effort is funded under Project DL59 beginning in FY 1997

contracts are used. Equipment required for development projects is obtained by contract from the commercial supplier. Product improvement developmental work has been Acquisition Strategy: When the necessary expertise and capacity are available within the DOD, services are ordered from the government source. Otherwise, commercial ime contractor for the Base Shop Test Facility (BSTF) with necessary support to the contractor's effort being provided by government obtained sole source from sources.

FY 1995 Accomplishments:

• 1317 Evaluate:		uate. I and developed a method for VXI implementation into IFTE	completed an elopment and tested computer system and display upgrades for the BSTF
1317		Evalu	Comp
• •	4		1306
		•	•

1788 Completed development and implemented new software tools

Performed BSTF Test Program Set (TPS) acceptance testing

950 Developed prototype Electronic Repair Shelter

Total 586

FY 1996 Planned Program:

- 3471 Develop/modify TPSs for Kiowa Warrior improved processors
- 3100 Develop additional depot and factory level TPSs for the Longbow Apache
- Develop/rehost Kiowa Warrior and Apache TPSs for use with the Electro-Optics Test Facility 2912
 - 217 SBIR/STTR
- 27 Revised Economic Assumption

otal 972

Project D537

Page 9 of 12 Pages

Exhibit R-2 (PE 0604746A)



RDT&E BUDGET ITEM JUS		TIFICATION SHEET (R-2 Exhibit)	ION SH	EET (R	-2 Exhit	oit)		DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	Developme	ent	PE NU 060, Dev	PE NUMBER AND TITLE 0604746A Auto Development	пге utomatic t	PE NUMBER AND TITLE 0604746A Automatic Test Equipment Development	uipment		R Q	PROJECT D537
FY 1997 Planned Program: See Project DL59 B. Project Change Summary		FY 1995	1	FY 1996	FY 1997					
Previous President's Budget Appropriated Amount (FY 95) Adjustment to FY 95		2880 2831 3030		0	0					
Appropriated Amount (FY 96) Adjustment to FY 96 Current Budget Estimate Submission		5861		982- -98 9727	0					
Service Change Summary Explanation: FY 96		Revised Economic Assumption (-98)	mption (-98)							
C. Other Program Funding Summary	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001		To Compl	Total Cost
OPA2. Appropriation Integrated Family of Test Equipment (K18400) (K51600)	41163 12233 0	35761 1953 5832	96 1410 0	4377 10644 0	17178 24398 14400	34937 11536 5834	49540 18761 1869		Cont'd Cont'd Cont'd	Cont'd Cont'd Cont'd
D. Schedule Profile: Not Applicable										
Project D537			Page 10 of 12 Pages	12 Pages	:		Exhibi	Exhibit R-2 (PE 0604746A)	04746A)	
			861							

RDT&E PROGRAM ELEMENT/P	RAM ELE	MENT/PR	SJECT (SOST BI	REAKDO	ROJECT COST BREAKDOWN (R-3)		DATE March 1996	9(
BUDGET ACTIVITY 5 - Engineering and Mai	turing	elopment		PE NUMBER AND TITLE 0604746A Auto Development	AND TITLE A Autom ment	atic Test	PE NUMBER AND TITLE 0604746A Automatic Test Equipment Development	1	РRОЈЕСТ D537
A. Project Cost Breakd wn Primary Hardware Development/Engineering Changes	ineering Chang	Se	FY 1995 1995		FY 1996	FY 1997			
Development Support Equiproent Systems Engineering Software Development)		386 1270 1146 500		3404 6323				
Lesung Miscellaneous Total			564 564 5861		7276	0			
B. Budget Acquisition story and Planning Information	l Planning Info	rmation							
Performing Organization Contractor or									
	Award or Obligation Date	Performing Activity FAC	Project Office EAC	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	Total Program
ct Developi	ns								1001
SAIC, C/CPAF San Diego, CA	Various	1961	1961	1122	839				1901
Northrop SS/FFP Grumman,	Jan95 - Jul96	5252	5252	200	1840	2912			5252
Bethpage, NY Grumman Various	Various	40873	40873	40873					40873
Aerospace Corp., Bethpage, NY McDonnell SS/CPIF	96Inf	3100	3100	0		3100			3100
Douglas Corp., Mesa, AZ	,								
							: : :		
Project D537			Pag	Page 11 of 12 Pages	ses		Exhibit	Exhibit R-3 (PE 0604/46A)	



BUDGET ACTIVITY 5 - Engineering and Manufacturing Development Contractor or Contract Government Method/Type Award or Performing Or Funding Obligation Activity Activity McDonnell SS/FFP Aug96 1500 Bouglas Corp., CA Huntington Beach, CA Honeywell, Inc. SS/FFP Aug96 1900 Albuquerque, NM Other Contracts Gov't In-House Funded Reqstns Government Furnished Property: Not Applicable	PE NUMBER AND TITLE 0604746A Automatic Test E	PE NUMBER AND TITLE				Maicii 1930	
Contract Contract Method Type Award or Performing Obligation Activity Vehicle Date EAC SS/FFP Aug96 1500 SS/FFP Aug96 1900 NM S Furnished Property: Not Applicable	=	0604746	AND TITLE	natic Test	PE NUMBER AND TITLE 06047464 Automatic Test Faminment		PROJECT D537
Contract Method/Type Award or Perfor or Funding Obligation Act Vehicle Date SS/FFP Aug96 S. SS/FFP Aug96 NM S. SS/FFP Aug96 Is see		Development	ment				
	Project Office EAC 1500	Total Prior to FY 1995 0	FY 1995	FY 1996 1500	FY 1997	Budget to Complete	Total <u>Program</u> 1500
Albuquerque, NM Other Contracts Gov't In-House Funded Regstns Government Furnished Property: Not Applicable	1900	0		1900			1900
		1869 6475 674	1065	315			2934 8907 674
Subtotal Product Development Subtotal Support and Management		51513	5861	9727			67101
Subtotal Test and Evaluation Total Project		51513	5861	9727			67101
Project D537	Pas	Page 12 of 12 Pages	ges		Exhibit	Exhibit R-3 (PE 0604746A)	

RDT&E BUDGET ITEM JUST	EM JUS	FICA	FICATION SHEET (R-2 Exhibit)	EET (R	-2 Exhi	bit)		DATE M	March 1996	9
BUDGET ACTIVITY 5 - Enginee ing and Manufacturing Developme	evelopm	ent	PE NU 060 Eng	PE NUMBER AND TITLE 0604760A Distr Engineering Dev	PENUMBER AND TITLE 0604760A Distributive Inte Engineering Development	PENUMBER AND TITLE 0604760A Distributive Interactive Simulations Engineering Development	tive Sim	ulations	ı	
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	2279	0	15966	19858	9866	20114	17211		Continuing	Continuing
DC73 Synthetic Theater of War	0	0	10248	6287	0	0	0		0	16535
DC74 Developmental Simulation Technology	0	0	2632	2615	3249	3803	3866		Continuing	Continuing
DC77 Interactive Simulation	0	0	3086	10956	6737	16311	13345		Continuing	Continuing
DC81 Reconfigurable Simulator Engr Dev	2279	0	0	0	0	0	0		0	2279

focused on development of engineering techniques and equipment for reconfigurable simulators. Beginning in FY97, the Army realigned funding for these projects together synthetic environment is used to verify the scenarios, tactics/techniques and procedures, train testers on new hardware/software and conduct trial test runs before costly live benefit across the Army and DoD by providing standards for interoperability and software reuse in this emerging domain. This Program Element supports research efforts DC74, Developmental Simulation Technology, provides engineering development of DIS tools, techniques, standards and applications in support of the Army's Core DIS field tests. Project DC73, Synthetic Theater of War, supports engineering development and integration of the Synthetic Theater of War (STOW) and FORCE XXI. Project development of techniques and technology for DIS and related simulations and simulator efforts. Project DC81, Reconfigurable Simulator Engineering Development, is development and application of DIS technology to electronically link all subcomponents together to recreate a scaleable battlefield, both horizontally and vertically. The locations, using different simulation equipment, tied together through use of a standard communication architecture. This Program Element provides for the engineering Facilities (CDF) at Forts Knox, Benning and Rucker, and the Operational Support Facility in Orlando, FL. Project DC77, Interactive Simulation, focuses on engineering systematic connection of different subcomponent simulations, simulators and/or instrumented live task forces. These DIS components may reside at multiple and distant and redefined the Program Element to more clearly describe and identify Distributed Interactive Simulation development efforts. Work done on this program will have Mission Description and Budget Item Justification: Distributed Interactive Simulation (DIS) is a synthetic environment within which humans may interact through a in the engineering and manufacturing development phases of the acquisition cycle and is therefore correctly placed in Budget Activity 5.

Page 1 of 13 Pages

Exhibit R-2 (PE 0604760A)





RDT&F BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TEM JUS	TIFICA	IS NOI	HEET (R	-2 Exhit)it)		DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Developm	ent	PE NI 060	PE NUMBER AND TITLE 0604760A Distr	TITLE Distributive Interactive Simulations	e Interac	tive Sim	ulations		PROJECT DC73
			Enç	Engineering Development	Develop	ment				
Particular COST (In:Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Synthetic Theater of Wa	0	0	10248	6287	0	0	0		0	16535
A. Mission Description and Budget Item Justification: Project DC73 - Synthetic Theater of War: This project supports engineering development and integration of the Synthetic Theater of War (STOW) and FORCE XXI. Development focuses on leveraging existing and emerging technology in a manner that produces substantial and continual improvements in combat readiness through the use of full spectrum, high fidelity, distributed simulation capability to support a large scale DIS user based exercise/experiment for JOINT VENTURE training and analytical needs.	cation: Project XXI. Develope the use of 1 g and analytic	ct DC73 - Sopment focu	'y nthetic Th ses on lever's 1, high fideli	neater of Wa aging existing ty, distribute	r: This proj 3 and emergi 1 simulation	ect supports ing technolo capability to	engineering gy in a man o support a l	g developme ner that proc arge scale E	nt and integr fuces substan JS user base	ation of tial and I
Acquisition Strategy: Competitive development leading to competitive procurement against performance specifications	eading to con	petitive pro	curement ag	ainst perform	ıance specifi	cations				
FY 1995 Accomplishments: Program not funded in FY 1995	in FY 1995									
FY 1996 Planned Program: Program not funded in FY 1995	in FY 1995									
FY 1997 Planned Program: • 7448 Develop and integrate emerging simulation technology to support the Synthetic Theater of War • 7448 Develop and integrate emerging simulation technology in support of FORCE XXI training program. Total 10248	d simulation t ing simulatioi	echnology t 1 technology	o support th	e Synthetic T of FORCE X	heater of Wa XI training J	ar xogram.				
B. <u>Project Change Summary</u> Previous President's Bucget (FY 1996)		FY 1995		FY 1996 0	FY 1997 0					
Appropriated Value (FY 1995) Adjustments to FY 1995 Appropriated Value Adjustments to Budget Year (FY 1997) since FY 1006 Precident's Budget			0 0		10248					
Current Budget Estimate Submission			0	0	10248					
C. Other Program Funding Summary OPA3, KA6000, Reconfigurable Simulators OMA	FY 1995 0 0	FY 1996 0 0	FY 1997 500 8985	FY 1998 0 12028	FY 1999 0	<u>FY 2000</u> 0	FY 2001 0		To Compl Cont'd Cont'd	Total Cost Cont'd Cont'd
Project DC73			Page 2 of 13 Pages	13 Pages			Exhib	Exhibit R-2 (PE 0604760A))604760A)	
			270							

RDT&E BUDGET ITEM JUSTIFICATIO	IFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PENUMBER AND TITLE 0604760A Distributive Interactive Simulations - Engineering Development	PROJECT IUlations - DC73
D. Schedule Profile 1 2 3 4 1 Award Engr & Integral act Development of DIS too Systems Integration	FY 1996 2 3 4 1 2 3 4 X X X X X	
Project DC73	Page 3 of 13 Pages Exhi	Exhibit R-2 (PE 0604760A)





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אחא	KDI & E PROGRAM ELEMENIN	KAINI ELE		ראטיבטור	COST BREAKDOWN (K-3)	LAND	NAA		March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	and Manufa	acturing D	evelopment		PE NUMBER AND TITLE 0604760A Distr Engineering De	AND TITLE A Distrik ring Dev€	PE NUMBER AND TITLE 0604760A Distributive Inte Engineering Development	PE NUMBER AND TITLE 0604760A Distributive Interactive Simulations Engineering Development	nulations -	PROJECT DC73
A. Project Cost Breakdown Systems Engineering & Integration Hardware Design & Development Reliability, Availability and Maintainability Verification, Validation & Accreditation Total B. Budget Acquisition History and Planning Information	k Integration evelopment y and Mainfainabi n & Accreditation History and Pla	ability lon Planning Info	rmation	EX 1995	FY 1996	966	EX 1997 6510 1600 1738 400 10248			
Performing Organizations Contractor or Government Method/Type Performing or Funding Activity Vehicle	anizations Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	to Total
TBD Competitive I TBD	ompetitive	reb 97	TBD	8398	0	0	0	8398	48	4862 13260
mage n	Best Value e ment Organiz a Various	ations Various	1250	1250	0	0	0	1250	∞	825 2075
Organizations of Miscellaneous	Various	Various	009	009	0	0	0	009	9	600 1200
	• •									
Project DC73	And the second s	and the second		Pag	Page 4 of 13 Pages	S		Exhib	Exhibit R-3 (PE 0604760A)	(V)

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RDT&E BUDGET ITEM JUST	EM JUS	TIFICA	TION SI	IFICATION SHEET (R-2 Exhibit)	-2 Exhil	bit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developmen	evelopm	ent	PE NI 060 Enç	PE NUMBER AND TITLE 0604760A Distributive Inte Engineering Development	пт <u>ге</u> istributiv Develop	E NUMBER AND TITLE 0604760A Distributive Interactive Simulations Engineering Development	tive Sim	ulations	ā u	PROJECT DC74
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DC74 Developmental Simulation Technology	0	0	2632	2615	3249	3803	3866		Continuing	Continuing Continuing

A. Mission Description and Budget Item Justification: Project DC74 - Developmental Simulation Technology: This project supports the Core Distributed Interactive Simulation (DIS) Facilities (CDF) at Fort Knox, KY, Fort Rucker, AL, Fort Benning, GA and the Operational Support Facility in Orlando, FL, which provide virtual combined arms battlefield with the warfighter-in-the-loop to evaluate weapon system concepts, tactics, doctrine and test plans.

Acquisition Strategy: Competitive development leading to competitive procurement against performance specifications

FY 1995 Accomplishments. Development activities funded in PE 0604759A, Major Test and Evaluation, Project DC55, Distributive Dev Simulation Technology.

FY 1996 Planned Program: Development activities funded in PE 0604759A, Major Test and Evaluation, Project DC55, Distributive Dev Simulation Technology.

FY 1997 Planned Program:

2632 Continue development of Advanced Distributed Simulation Technology support which enables combat, materiel and training developers and testers to perform experiments to test tactics, doctrine and weapon design. 2632 Total

FY 1997	0			2632		2632	
FY 1996	0					0	
FY 1995	0	0				0	
B. Project Change Summary	Previous President's Budget (FY 1996)	Appropriated Value (FY 1995)	Adjustments to FY 1995 Appropriated Value	Adjustments to Budget Year (FY 1997) since	FY 1996 President's Budget	Current Budget Estimate Submission	

Change Summary Explanation:

Funding: FY 1997 - Funds in support of this project are transferred from Program Element 0604759A, Major Test and Evaluation Investment, Project DC55, Distributed Development Simulation Technology.

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R-2 (PE 0604760A)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ITEM JUS	TIFICAT	HS NOI	EET (R	-2 Exhil	oit)		рате Ма і	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	g Developme	ent	PE NU 060	PE NUMBER AND TITLE 0604760A Distributive Inte	n∟E istributiv Develop	re Interac ment	ctive Sin	PE NUMBER AND TITLE 0604760A Distributive Interactive Simulations - Engineering Development	PR(PROJECT DC74
C. Other Program Funding Summary RDTE, A Budget Activity 5, PE 0604715A,	FY 1995 3373	<u>FY 1996</u> 5997	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001		To Compl 0	Total Cost 9370
Project DC91, Distr interactive Simulation RDTE, A Budget Activity 4, PE 0604760A, Project DC77, Interactive Simulation			3086	10956	6737	16311	13345		Cont'd	Cont'd
D. Schedule Profile	FY 1995 1 2 3	4	1 2	FY 1996 2 3	4	FY 1997 2 3	97 3 4			
ADST II Delivery Order Contract Award						<				
And when the state of the state										
Project DC74			Page 6 of 13 Pages	3 Pages			Exhit	Exhibit R-2 (PE 0604760A)	04760A)	
			098							

RDI	RDT&E PROGRAM ELEMENT/P	RAM ELI		SJECT C	SOST BF	REAKDO	ROJECT COST BREAKDOWN (R-3)	<u>@</u>	DATE March 1996	966
BUDGET ACTIV TY 5 - Engineering and Manufacturing Development	g and Manu	facturing L	Development		PE NUMBER AND TITLE 0604760A Distr Engineering De	AND TITLE A Distrik ring Deve	PE NUMBER AND TITLE 0604760A Distributive Inte Engineering Development	Diffile Distributive Interactive Simulations ig Development	nulations -	PROJECT DC74
A. Project Cost Breakdown Systems Engineering & Integration Primary Hardware Development Reliability, Availability and Main ainability Total	eakdown g & Integration Jevelopment ility and Main'aii	nability		FY 1995	FY	FY 1996	EY 1997 1800 422 410 2632			
B. Budget Acquisition History and Planning Information	tion History and	l Planning Inf	ormation							
Performing Organizations Contractor or Contra Government Metho Performing or Fun Activity Vehic	izations Contract Method/Type or Funding	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	to Program
Product Development Organizations TBD Competitive	competitive	ons Feb 97	TBD	2082	0	0	0	2082	Cont'd	
Support and Management Organizations Miscellaneous Various Vario Test & Evaluation	best væde agement Organi Various	zations Various	320	320	0	0	0	320	Cont'd	'd Cont'd
Organizations Miscellaneous	Various	Various	230	230	0	0	0	230	Cont'd	'd Cont'd
:										
Project DC74	2 2			Pag	Page 7 of 13 Pages	jes Jes		EXH:	Exhibit R-3 (PE 0604760A)	(X



RDT&E BUDGET ITEM JUS	EM JUS	TIFICA	TION SI	TIFICATION SHEET (R-2 Exhibit)	2-2 Exhil	bit)		DATE M	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	Jevelopm	ent	PE NI 060 Enç	PE NUMBER AND TITLE 0604760A Distributive Interactive Simulations Engineering Development	ппс Distributiv J Develop	re Intera	ctive Sim	ulations		Р ROJE СТ DC77
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DC77 Interactive Simulation	0	0	3086	10956	6737	16311	13345		Continuing	Continuing
A. Mission Description and Budget Item Justification: Project DC77 - Interactive Simulation: This project focuses on engineering development of techniques and DIS technology of wide area simulation networking in support of modeling and simulation, doctrinal development, training, and operations, utilizing live, virtual and constructive simulations. Development also supports related simulations and simulator efforts, including the Battlelab Reconfigurable Simulators. Development activities associated with this project were budgeted in Program Element 0604715A, Non-System Training Devices Engr Dev, Project DC91, Distributive Interactive Simulation, in FY 1995 and FY 1996.	zation: Projegin support of trs related simum Element (ect DC77 - I f modeling a ulations and	nteractive S nnd simulation I simulator e Von-System	Simulation: on, doctrinal efforts, includ Training De	This project developmen ding the Batt vices Engr D	focuses on t, training, a lelab Recons ev, Project I	engineering nd operatior figurable Sin DC91, Distri	developmen is, utilizing I nulators. De butive Interz	t of techniqu live, virtual i evelopment i active Simul	ues and and activities ation, in
Acquisition Strategy: Competitive development leading to competitive procurement against performance specifications EV 1005 Accomplishments. Eunded under Project DC 91. Distributive Interactive Simulation. PR 0604715A	eading to con	npetitive pro	curement ag	gainst perforr	nance specif	ications				
FY 1996 Planned Program: Funded under Project DC 91, Distributive Interactive Simulation, PE 0604715A	t DC 91, Dist	ributive Inte	ractive Sim	ulation, PE 0)604715A					
 FY 1997 Planned Program: 1376 Provide systems engineering and develop standards, interoperability and accreditation pro 460 Develop software upgrades/enhancements to modular semi-automated forces (MODSAF) 1250 Develop Battlelab reconfigureable simulator. Total 3086 	and develop inhancements eable simulat	standards, in to modular or.	ıteroperabilii semi-automa	standards, interoperability and accreditation processes to support the synthetic environment. to modular semi-automated forces (MODSAF).	ditation proco MODSAF).	ssses to supp	oort the syntl	netic environ	ıment.	
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustments to FY 1995		FY 1995 0 0 0		FY 1996 0 0 0	FY 1997 0 0 0					
Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current President's Budget Submit					3086					
Project DC77			Page 8 of 13 Pages	13 Pages			Exhib	Exhibit R-2 (PE 0604760A))604760A)	

RDT&E BUDGET ITEM JUST	TEM JUST		ION SH	EET (R	FICATION SHEET (R-2 Exhibit)	Ē		DATE Marc	March 1996	
SUDGET ACTIVITY 5 - Engineering and Manufacturing Developmer	Developme	¥	PE NUN 0604 Engi	PE NUMBER AND TITLE 0604760A Distr Engineering De	PE NUMBER AND TITLE 0604760A Distributive Interactive Simulations Engineering Development	e Interac nent	tive Sim	ulations -	PROJEC DC77	PROJECT DC77
Change Summary Explanation: Funding: FY 1997 - This project was funded in Program Element 0604715A, Non-System Training Devices Engineering Development, Project DC91, Distributive Interactive Simulation.	nded in Program	Element 06	04715A, Noi	n-System Tr	aining Devic	es Engineer	ing Develo	pment, Project D	C91, Distr	ibutive
C. Other Program Funding Summary RDTE, A. Budget Activity 5, PE 0604715A,	FY 1995 3373	FY 1996 5997	FY 1997 0	FY 1998 0	FY 1999 0	$\frac{\text{FY } 2000}{0}$	<u>FY 2001</u>		To Compl 0	Total Cost 9370
Project DC91, Distr interactive Sanulation OPA3, KA6000, Reconfigurable Simulators OMA		12222	13335	16480 12300	7828 12400	3928 12500	3153 12600		Cont'd Cont'd	Cont'd Cont'd
D. <u>Schedule Profile</u>	FY 1995	4	F)	FY 1996 2 3	4	FY 1997 2 3	7 3 4			
Award Delivery Order, SEI Contract DIS Verification & Validation						××				
The desired of										
Project DC77			Page 9 of 13 Pages	3 Pages			Exhit	Exhibit R-2 (PE 0604760A)	4760A)	
			877							





RDT&E PROGRAM ELEMENT/	PROJECT	COST BREAKDOWN (R-3)	EAKD	WN (R-	3	DATE March 1996	1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	nent	PE NUMBER AND TITLE 0604760A Distr Engineering De	A Distrik O Distrik ing Dev	PE NUMBER AND TITLE 0604760A Distributive Inte Engineering Development	PENUMBER AND TITLE 0604760A Distributive Interactive Simulations Engineering Development	nulations -	PROJECT DC77	L.
A. Project Cost Breakdown Systems Engineering & Integration Develop DIS tools, techniques, standards Develop Reconfigureable Simulator Total	FY 1995	FY 1996	966	EY 1997 1250 836 1000 3086				
B. Budget Acquisition History and Planning Information Performing Organizations Contractor or Contractor Government Method/Type Award or Performing Performing or Funding Obligation Activity	Project Office	Total Prior to	FV 1995	FV 1996	FV 1997	Budget to	ď	Total
Development Organizations Competitive Feb 97		0	0	0	2036	Cont'd	l	Cont'd
Support and Management Organizations Miscellaneous Various 800	008	0	0	0	800	Cont'd	r'd	800
Test & Evaluation Organizations (*) Miscellaneous Warious Various 250) 250	0	0	0	250	Cont'd	r, q	250
								,
Project DC77	Pag	Page 10 of 13 Pages	Sã		Exhib	Exhibit R-3 (PE 0604760A)	0A)	

RDT&E BUDGET ITEM JUST	TEM JUS	TIFICA	TION SI	HEET (R	FIFICATION SHEET (R-2 Exhibit)	bit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Developm	ent	PE NI 060 Enç	PE NUMBER AND TITLE 0604760A Distr Engineering Dev	PENUMBER AND TITLE 0604760A Distributive Interactive Simulations Engineering Development	ve Intera	ctive Sim	ıulations	a 0	PROJECT DC81
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DC81 Reconfigurable Simulator Engr Dev	2279	0	0	0	0	0	0		0	2279

development of both software and hardware for reconfigurable simulators for use in TRADOC Battlelabs. Simulators developed in this program are not system specific, but technology insertion, and for the development of doctrine necessary to mesh new equipment items into training and battle situations. Continuing development efforts in will represent generic equipment. Reconfigurable simulators will be used to simulate existing and developmental equipment to explore new concepts and systems for A. Mission Description and Budget Item Justification: Project DC81 - Reconfigurable Simulator Engineer Development: This project initiates engineering support of this project are transferred to PE 0604715A, Project DC91, Distributive Interactive Simulation in FY 1996.

Acquisition Strategy: Competitive development leading to competitive procurement against performance specifications

FY 1995 Accomplishments:

- 1160 Developed engineering techniques, drawings and specifications for design and fabrication of reconfigurable simulators.
 - Built prototype reconfigurable simulators with various designs for evaluation in Battlelabs. 629
- Conducted verification, validation and accreditation of software and hardware reconfigurable simulator modules
- Total

FY 1996 Planned Program: Program continues as part of PE 0604715A, Project DC91, Distributive Interactive Simulation

FY 1997 Planned Program: Program continues as part of PE 0604760A, Project DC77, Interactive Simulation

B. Project Change Summary	FY 1995	FY 1996	FY 1997
Previous President's Budget (FY 1996)	6412	0	0
Appropriated Value (FY 1995)	6278		
Adjustments to FY 1995 Appropriated Value	- 3999		
Current President's Budget Submit	2279	0	0

Change Summary Explanation: FY 1995 - Reprogrammed \$3.999M to Project DC80, PE 0603760A, Distributive Interactive Simulations - Advanced Development and Project D241, PE 0604715A, Non-System Training Devices - Engineering Development

Project DC81

Page 11 of 13 Pages

Exhibit R-2 (PE 0604760A)



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	M JUS	IFICA1	HS NOI	EET (R	-2 Exhit	oit)		DATE Mar	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	velopme	ıt	PE NU 060 Eng	PE NUMBER AND TITLE 0604760A Distributive Inte	ITLE istributiv Develop	e Interac ment	tive Sim	DE NUMBER AND TITLE 0604760A Distributive Interactive Simulations - Engineering Development	PRC DC	PROJECT DC81
	FY 1995 3373	FY 1996 5997	FY 1997 0	FY 1998 0	FY 1999 0	FY 2000 0	FY 2001 0		To <u>Compl</u> 0	Total Cost 9370
Project DC91, Distributive Interactive Simulation RDTE, A Budget Activity 5, PE 0604760A,			3086	10956	6737	16311	13345		Cont'd	Cont'd
Project DC77, Interactive Simulation OPA3, KA6000, Reconfigurable Simulators OMA	0	12222	13335 11100	16480 12300	7828 12400	3928 12500	3153 12600		Cont'd Cont'd	Cont'd Cont'd
D. Schedule Profile 1 Award Competitive System Contract Primary Hardware Development Systems Integration	FY 1995 2 3	4	X 2 F	FY 1996 2 3 X X X	4 —	FY 1997 2 3	F & 4			
Francisco Control of the Control of			Page 12 of 13 Pages	13 Pages			Exhib	Exhibit R-2 (PE 0604760A))4760A)	

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	RAM ELI	EMENT/PR	OJECT (SOST BI	REAKDO	WN (R-	3)	DATE March	March 1996	
вирсет Астіміту 5 - Engineering and Manufacturing Development	acturing [)evelopment		PE NUMBER AND TITLE 0604760A Distr Engineering Dev	AND TITLE A Distrik ring Deve	PENUMBER AND TITLE 0604760A Distributive Inte Engineering Development	PENUMBER AND TITLE 0604760A Distributive Interactive Simulations Engineering Development	nulations -	PROJEC DC81	PROJECT DC81
 A. Project Cost Breakdown Systems Engineering Primary Hardware Development Reliability, Availability, and Maintainability Total B. Budget Acquisition History and Planning Information Performing Organizations 	nability Planning Inf	ormation	EY 1995 1160 679 440 2279		FY 1996	FY 1997				
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office <u>EAC</u>	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to <u>Complete</u>		Total Program
Hughes Trng Inc. Competitive I Best Value	Dec 95	2059	2059	0	2059	0	0		0	2059
Support and Management Organizations Miscellaneous Various Vario	zations Various	220	220	0	220	0	0		0	220
Project DC81			Pag	Page 13 of 13 Pages	ses		Exhi	Exhibit R-3 (PE 0604760A)	760A)	



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TEM JUS	TIFICA	TION S	HEET (R	۱-2 Exhi	bit)		DATE N	March 1996	9
BUDGET ACTIVITY STATE Manufacturing Development	Developm	ent	PE NI 060	PE NUMBER AND TITLE 0604766A Tact	πι∟Ε [actical E	xploitati	PE NUMBER AND TITLE 0604766A Tactical Exploitation of National	ional		
	•		Car Mai	oabilities nufacturi	Capabilities (TENCAP) - Engineering Manufacturing Development (TIARA)	P) - Engi Iopment	Capabilities (TENCAP) - Engineering & Manufacturing Development (TIARA)	ل ام		
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	28246	23861	15758	20631	21235	28299	27122		Continuing	Continuing
D113 Joint Tactical Ground Station	9435	0	0	0	0	0	0		0	32527
D909 Tactical Electronic Surveillance System - Eng Dev	18811	23861	15758	20631	21235	28299	27122		Continuing	Continuing
as	This Duck	10 mon	+ (DE) guang	the one	ayah aninaa	Jonmont dire	etad at meet	ing the tactic	o leomman	ore.

Intelligence (SIGINT) and multi-spectral developments are managed within the Army's Tactical Exploitation of National Capabilities (TENCAP) program. The scope of the Intelligence and Related Activities (TIARA) Congressional Justification Book, Volume II and the TENCAP Master Plan. The projects in this PE support research efforts in and targeting needs and deficiencies for near-real-time receipt, analysis, and dissemination to the appropriate tactical echelon. Further details may be found in the Tactical program is directed towards advanced techniques and capabilities to exploit National and selected theater capabilities that uniquely meet stated Army tactical intelligence Mission Description and Budget Item Justification: This Program Element (PE) supports the engineering development directed at meeting the tactical commanders intelligence mission requirements for contingency force deployment and deep battle surveillance and targeting - as stated in Field Manual 100-5. Specific Signals the engineering and manufacturing development phases of the acquisition strategy and are therefore correctly placed in Budget Activity 5.

Page 1 of 9 Pages

Exhibit R-2 (PE 0604766A)

RDT& JDGET ITEM JUS	SUL MB		FION S	HEET (R	FIFICATION SHEET (R-2 Exhibit)	bit)	/Ω	DATE	March 1996	တ္
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Jevelopm	ent	PE NU 060 Cap	PE NUMBER AND TITLE 0604766A Tacti Capabilities (TE Manufacturing C	⊓⊓E actical E (TENCAI ng Devel	PE NUMBER AND TITLE 0604766A Tactical Exploitation of N≀ Capabilities (TENCAP) - Engineering Manufacturing Development (TIARA)	E NUMBER AND TITLE 0604766A Tactical Exploitation of National Capabilities (TENCAP) - Engineering & Manufacturing Development (TIARA)	nal	.	РРОЈЕСТ D113
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	:	Cost to Complete	Total Cost
D113 Joint Tact.cal Ground Station	9435	0	0	0	0	0	0		0	32527

system improves the warning and alerting response time and eliminates several single-point-failure susceptible communications relay nodes. It also serves as the in-theater A. Mission Description and Budget Item Justification. This project funds the development of two Engineering and Manufacturing Development (EMD) JTAGS units. based sensors of major tactical events such as missile launches. JTAGS supports active defense, attack operations, and passive defense. By being located in-theater, the JTAGS is designed for in-theater receipt, processing and dissemination of warning and alerting data from Defense Support Program (DSP) sensors and follow-on space at System (TES). The warning and cueing information gathered will be disseminated via Tactical Information Broadcast The project is a follow-on to the Tactical Surveillance Demonstration (TSD) and Tactical Surveillance Demonstration Enhancement (TSDE) programs (Project D909). System (TIBS), Tactical Related Application (TRAP) and other existing in-theater communication networks. element of the USSPACECOM's Taction

Acquisition Strategy: JTAGS transitioned into a formal ACAT III NDI acquisition program at the MS II In-Process Review (IPR) on 6 May 1994. Based on the decision made by the Milestone Decision Authority (MDA), JTAGS entered the Engineering and Manufacturing (EMD) phase. The EMD phase called for design, total integration and delivery of twe EMD prototypes. Technical and operational testing was completed in Nov 95. Milestone III approval was obtained on 26 Feb 1996

FY 1995 Accomplishments:

- 6897 Developed and delivered two JTAGS EMD units.
- 1851 Completed developmental and operational testing of EMD units.
 - 687 Prepared for MS III decision review.
 - 451 0/25

FY 1996 Planned Program: Project not funded in FY 1996

FY 1997 Planned Program: Project not funded in FY 1997

Project D113

Page 2 of 9 Pages

Exhibit R-2 (PE 0604766A)



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R	-2 Exhibi	t)	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604766A Tacti Capabilities (TE	π∟E actical Ex∣ (TENCAP)	PE NUMBER AND TITLE 0604766A Tactical Exploitation of National Capabilities (TENCAP) - Engineering &	National ng &	PROJEC D113	РКОЈЕСТ D113
	Manufacturi	ng Develo	Manufacturing Development (TIARA)	A)		
B. Project Change Summary: Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustments to FY 1995 Appropriated Amount (FY 1996)	<u>FY 1996</u> 0	0 0				
Adjustments to FY 1996 Adjustments to Budget Year (FY 1997) since		0				
	0	0				
Change Summary Explanation: Funding: FY 1995: +770 were reprogrammed to support Army priority requirements	nents					
$\frac{\text{FY 1995}}{0} \frac{\text{FY 1996}}{29950}$	FY 1997 FY 1998 0 3059	FY 1999] 2846	FY 2000 FY 2001 0 0	<u>001</u> 0	To <u>Compl</u> 0	Total Cost 35855
BZ8410 Joint Tactical Ground Station (JTAGS) RDTE, A Budget Activity 7 0208053A JTAGS (TIARA)	2124 3192					5316
D. Schedule Profile 1 2 3 4 1	FY 1996 2 3	1	FY 1997 2 3	4		
Deliver 1st EMI) Prototype Begin Developmental Test Deliver 2nd EMD Prototype Begin Operational Tests Milestone III IPR	*					
* Milestones Completed						
en en Elle Arrive . The contraction of depth of contraction from the contraction of the c	Daga 3 of 0 Pages		Ú	Evbibit R-2 (PE 0604766A)	1604766A)	
riolett Diio	48c J 0/ 1 48co				(1)	

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RDT&E PROGRAM ELEMENT/PROJE	ROJECT COST BREAKDOWN (R-3)	:	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604766A Tacti Capabilities (TE Manufacturing I	PE NUMBER AND TITLE 0604766A Tactical Exploitation of National Capabilities (TENCAP) - Engineering & Manufacturing Development (TIARA)	PROJECT D113
A. Project Cost Breakdown Prime Contractor Contract Engineering Support Program Management Support Government Engineering Support Government Furnished Equipment Total	FY 1995 FY 1996 2199 0 2070 0 2600 0 2497 0 69 0	FY 1997 0 0 0 0 0 0	
B. Budget Acquisition History and Planning Information: Not Applicable	able		
Project D113	Page 4 of 9 Pages	Exhibit	Exhibit R-3 (PE 0604766A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FEM JUS	TIFICA	ION SH	HEET (R	-2 Exhil	bit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Developm	ent	PENU 060 Car Mai	PE NUMBER AND TITLE 0604766A Tacti Capabilities (TE Manufacturing [E NUMBER AND TITLE 0604766A Tactical Exploitation of Na Capabilities (TENCAP) - Engineering Manufacturing Development (TIARA)	xploitati P) - Engi opment	PE NUMBER AND TITLE 0604766A Tactical Exploitation of National Capabilities (TENCAP) - Engineering & Manufacturing Development (TIARA)	ional		РРОЈЕСТ D909
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D909, Tactical Electronic Surveillance System - Eng Dev	18811	23861	15758	20631	21235	28299	27122		Continuing	Continuing Continuing
しつのフェメー										

Common Imagery Ground/Surface System (CIG/SS) program. TES brings all of the existing and emerging Army TENCAP capabilities (EPDS, MIES, and ETRAC) into an Processing Dissemination System (EPDS) and Tactical Exploitation System (TES). The Army's emerging TES will incorporate the standards and protocols dictated by the and ETRAC that are funded under the Defense Airborne Reconnaissance Program (DARP) (PE 0305154D)). Graphic Situation Display (GSD) is a jointly funded program to develop a means to computer generate, transmit, and display graphical representations of the battle space thereby saving communicating bandwidth, manpower and time. subsystems, planned improvements, key activities and ongoing/planned initiatives determined to have potential application to multiple TENCAP systems (including MIES integrated common baseline; downsized, modular and scaleable to meet a wide range of contingency requirements. TENCAP Common Baseline addresses common A. Mission Description and Budget Item Justification: This project supports the engineering development/enhancement of the Electronic Tactical User Terminal (ETUT), Mobile Integrated Tactical Terminal (MITT) (replaces the Tactical High Mobility Terminal (THMT)), Forward Area Support Terminal (FAST), Electronic The beta software portion of the GSD effort was funded with FY 1993 Military Exploitation of Reconnaissance and Intelligence Technology (MERIT) funds.

environment emphasizing stable funding, low density acquisition, minimal use of MILSPECS, and managed competition. By tailoring existing technology, leveraging the best commercial practices, and using commercial and government-off the shelf software, ASPO minimizes risk while maximizing efficiency. Finally, dedicated cradle to Acquisition Strategy: As pioneers in rapid acquisition, ASPO's success in delivering systems as those described above to warfighters can be directly attributed to an grave Integrated Logistics Support (ILS) for TENCAP systems is accomplished through a coordinated effort by Government and contractor personnel and facilities.

FY 1995 Accomplishments:

- emerging worldwide contingency scenarios which includes major upgrades to communications component (SUCCESS Radio) which is common to all 8980 Continued software upgrades and enhancements for refinement of the TENCAP Common Baseline to fully exploit National capabilities to meet TENCAP systems.
 - Continued engineering development of five additional MITTs to replace existing THMT.
 - 1330 Continued the retrofit of ETUT's with enhanced MITT hardware and software.
- Initiated effort to upgrade ETUT to include EPDS capabilities, which will allow for the defielding of EPDS systems in FY97 4117
- Continued support to TENCAP program management and administrative activities (e.g. FFRDC (Aerospace), ARL support, ASPO support and Contractor SETA support). 3144

Contract Total See 18811

Project D909

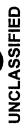
881

Page 5 of 9 Pages

Exhibit R-2 (PE 0604766A)

	RDT&E BUDGET ITEM JUSTIFICATIOI	FICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PENUMBER AND TITLE 0604766A Tactical Exploitation of National	PROJECT ational D909
		Capabilities (TENCAP) - Engineering & Manufacturing Development (TIARA)	J &
FY 1996 Planned Program: • 11363 Continu integrat comma	rogram: Continue software upgrades and enhancements for the refinement of the TENCAP Common Baseline to fully exploit National capabilities such as integration of communications capabilities to meet changing architectures and implementation of software appliqué to provide the operational commande with enhanced battlefield intelligence products.	ement of the TENCAP Common Baseline to fully ex grchitectures and implementation of software appli	oloit National capabilities such as ué to provide the operational
• 891 • 3957 • 900	Complete the retrofit of ETUT with enhanced MITT hardware and software. Continue effort to upgrade ETUT to include EPDS capabilities. Complete building/fielding of five additional MITTs.	rre and software. ies.	
• 480 • 5675	Initiate engineering development of TES. Continue support to TENCAP program management and administrative activities (e.g. FFRDC (Aerospace), ARL support, ASPO support, Army Topographic Engineering Center (TEC) and Contractor SETA support).	ministrative activities (e.g. FFRDC (Aerospace), AR Support).	L support, ASPO support , Army
• 52/ • 68 Total 23861	Sinal Dusiness introvation research (SDIA) Sinal Dusiness Technology Hanster (STIA) Revised Economic Assumptions amount not available for execution.	ceution.	
FY 1997 Planned Program: • 5556 Continuintegrat	rogram: Continue software upgrades and enhancements for the refinement of the TENCAP Common Baseline to fully exploit National capabilities such as integration of communications capabilities to meet changing architectures and implementation of software appliqué to provide the operational	ement of the TENCAP Common Baseline to fully ex g architectures and implementation of software appli	ploit National capabilities such as jué to provide the operational
5550 • 1246 • 3406		ties. Iministrative activities (e.g. FFRDC (Aerospace), AR	L support, ASPO support , Army
Total 15758	Topograpnic Engineering Center (TEC) and Contractor SETA Support)	Ara Support).	
Project D909	Pa	Page 6 of 9 Pages	Exhibit R-2 (PE 0604766A)





Per State Pergament	THE TOTAL OF THE PARTY OF THE P	-SI W	LEIC AT	I O NOI	EET /D	O EVAIL		70	DATE		
PROJE Sal Exploitation of National Age NCAP) - Engineering & Bandineering & Bandi		EIVI JUS	ובאווו	IO NOI	בבו (ה	7. EAIIII	711.)		2	March 1996	
VCAP) - Engineering & Bevelopment (TIARA) 997- 302 456 To T	BUDGET ACTIVITY 5 - Engineering and Manufacturing Do	evelopme	int	PE NUI 0 60 4	MBER AND T 1766A Ta	π∟E actical Eు	xploitatic	on of Natio	nal	A D	ыест 09
Jey Page 1 302 456 456 To T		•		Сар	abilities	(TENCAF) - Engir	neering &			
302 302 456 758 7094 28151 32668 Cont 0 0 0 0 Cont 6123 72124 67173 Exhibit R-2 (PE 0604766A)					ufacturir	ng Develo	opment (TIARA)			
302 456 758 7094 28151 32668 Cont 0 0 0 0 Cont 6123 72124 67173 Exhibit R-2 (PE 0604766A)	B. Project Change Summary		FY 1995	F	966	FY 1997					
456 758 7094	Previous President's Budget (FY 1996)		19214		6691	15302					
456 758 7094	Appropriated Amount (FY 1995)		18811								
456 758 1999	Adjustments to FY 1995			•	•						
456 758 758 1999 FY 2000 FY 2001 To 7094 28151 32668 Cont 0 0 0 Cont 1758 4678 13723 Cont 0 0 Cont 6123 72124 67173 Exhibit R-2 (PE 0604766A)	Appropriated Amount (FY 1996)			77	‡101 2.5						
758 758 7094	Adjustments to FY 1996				-240	,					
758 1999	Adjustments to Budget Year (FY 1997) since					+456					
To T	Current Budoet Submit/President's Budget		18811		3861	15758					
1999 FY 2000 FY 2001 Complement 7094 28151 32668 Cont 0 0 0 Cont 3750 13824 13723 Cont 1758 4678 13936 Cont 0 0 Cont 6123 72124 67173 Exhibit R-2 (PE 0604766A)				'							
TY 1995 FY 1996 FY 1997 FY 1998 FY 1999 FY 2000 FY 2000 FY 2000 Complex	Change Summary Explanation: Funding: FY 1996:	(-240) Revis	ed Economi	c Assumptio	ns inflation	rates.					
FY 1995 FY 1996 FY 1997 FY 1998 FY 1999 FY 2000 EX 2001 Complement 11481 27460 26060 23200 27094 28151 32668 Cont 2049 0 0 0 0 0 0 Cont 39313 42737 47780 35264 13750 13824 13723 Cont PA-2 4636 4473 1758 1705 1758 4678 13936 Cont 51534 80822 98486 94583 76123 72124 67173 Cont Pages 7 of 9 Pages 7	C. Other Program Funding Summary									To	Total
11481 0 0 0 0 0 0 14519 27460 26060 23200 27094 28151 32668 Cont 2049 0 0 0 0 0 2049 0 1780 35264 13750 13824 13723 Cont 2411 0 0 0 0 0 0 251534 80822 98486 94583 76123 72124 67173 Exhibit R-2 (PE 0604766A)		FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001		Compl	Cost
14519 27460 26060 23200 27094 28151 32668 Cont 2049 0 0 0 0 0 0 39313 42737 47780 35264 13750 13824 13723 Cont PA ₇ 2 4636 4473 1758 1705 1758 4678 13936 Cont 2411 0 0 0 0 0 Cont 51534 80822 98486 94583 76123 72124 67173	RDTE, A Budget Activity 4	11481	0	0	0	0	0			ı	
14519 27460 26060 23200 27094 28151 32668 Cont 2049 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	PE 0603730A Project D560										
14519 27460 26060 23200 27094 28151 32668 Cont 2049 0 0 0 0 0 0 39313 42737 47780 35264 13750 13824 13723 Cont 2411 0 0 0 0 0 0 251534 80822 98486 94583 76123 72124 67173 Page 7 Of 9 Pages Pages Page Pag	Tact Surv Sys - Adv Dev			;	,			,		ı	i
v Activity 4 2049 0 0 0 0 0 0 0 0 Activity 4 Activity 4 0	PE 0603766A Project D907	14519	27460	26060	23200	27094	28151	32668		Cont	Cont
Activity 4 2049 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TENCAP-Adv Dev	,	•	,	•	•	•	•			
ect D662 Activity 7 Activity	RDTE, A Budget Activity 4	2049	0	0	0	0	0	0			
18 Locy 18 Locy 13723 Cont Activity, T. 4636 4473 1758 1705 1758 4678 13936 Cont 1 Army, OPA-2 2411 0 0 0 0 0 Cont 1 snse Wide 51534 80822 98486 94583 76123 72124 67173 Cont Page 7 of 9 Pages	PE 0604740A Project D662										
ect P531 care and a contact an	Tact Surv Sys - Eng Dev Server	20213	12721	08777	14045	12750	12824	13773		Jon	Cont
t Army, OPA-2 4636 4473 1758 1768 4678 13936 Cont 2411 0 0 0 0 0 Cont Page 7 of 9 Pages Exhibit R-2 (PE 0604766A)	KU1E, D Budget Activity (1988) PE 0305154D Project P531	51565	16124	00//+	10700	00/01	170C1	77/61			
t Army, OPA-2 4636 4473 1758 1705 1758 4678 13936 Cont 2411 0 0 0 0 0 0 Cont S1534 80822 98486 94583 76123 72124 67173 Page 7 of 9 Pages Exhibit R-2 (PE 0604766A)	DARP										
anse Wide 51534 80822 98486 94583 76123 72124 67173 Page 7 of 9 Pages Social Exhibit R-2 (PE 0604766A)	Other Procurement Army, OPA-2	4636	4473	1758	1705	1758	4678	13936		Cont	Cont
AP Cont Defense Wide 51534 80822 98486 94583 76123 72124 67173 Cont Page 7 of 9 Pages Solve Solv	BZ7315 TENCAP										
Cont Defense Wide 51534 80822 98486 94583 76123 72124 67173 Page 7 of 9 Pages Exhibit R-2 (PE 0604766A)	BA0329 DARP	2411	0	0	0	0	0	0			
51534 80822 98486 94583 76123 72124 6 Page 7 of 9 Pages	Procurement, Defense Wide									Cont	Cont
Page 7 of 9 Pages	PE 0305154D	51534	80822	98486	94583	76123	72124	67173			
Page 7 of 9 Pages	atentaria habitata eti heddinad.										
003	Project D909			Page 7 of 9	Pages			Exhibit F	1-2 (PE (0604766A)	
				600							

RDT&E BUDGET ITEM JUSTIFICATION	IFICATION SHEET (R-2 Exhibit)	March 1996
вирбет Астіvity 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604766A Tactical Exploitation of National Capabilities (TENCAP) - Engineering & Manufacturing Development (TIARA)	PROJECT al D909
D. Schedule Profile 1 2 3 4 1 Initiate upgrade to ETUT with E. DS capabilities Complete Development and Field five Additional MITTs Complete Retrofit and Refield ETUTs Complete and Field DAMA Applique into SUCCESS Radios Initiate Engineering Development of TES Install GSD into FAST Systems Complete upgrade to E. UT with EPDS capabilities * Milestone completed	FY 1996 Y* X X X X X X X X X X X X X	
Project D909	Page 8 of 9 Pages Exhibit R-	Exhibit R-2 (PE 0604766A)
	78X	



RDT&E PROGRAM ELEMENT/PROJE	ст соѕ	ST BREAKI	PROJECT COST BREAKDOWN (R-3)	DATE M	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE N	PE NUMBER AND TITLE 0604766A Tacti	PE NUMBER AND TITLE 0604766A Tactical Exploitation of National	onal	PROJECT D909
	Ma Ma	pabilities (TE inufacturing	Capabilities (TENCAP) - Engineering & Manufacturing Development (TIARA)	_	
A. Project Cost Breakdown	FY 1995	FY 1996	FY 1997		
	1240	006	0		
Bride States	5447	4848	1246		
TES	0	480	5550		
Common Baseline (*1)	0868	11363	5556		
FFRDC (*2)	995	1767	1326		
System Engineering (Contractor) (*2)	2149	3908	2080		
SBIR/STTR		527			
Revised Economic Assumptions amount not available for		89			
Execution 1997 (1997) Total Property (1997)	18811	23861	15758		

^(*1) TENCAP Common Baseline addresses common subsystems, planned improvements, key activities and ongoing/planned initiatives determined to have potential application to multiple TENCAP systems (including MIES and ETRAC that are funded under the DARP (PE 0305154D)

B. Budget Acquisition History and Planning Information: Not Applicable

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Page 9 of 9 Pages

Project D909

Exhibit R-3 (PE 0604766A)

^(*2) In FY 1996 and beyond, efforts previously funded under 0604740A. D662 are consolidated into this project

RDT&E BUDGET ITEM JUST	EM JUS	_	FICATION SHEET (R-2 Exhibit)	HEET (R	-2 Exhi	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developmen	Developm	ent	PE NU 060	PE NUMBER AND TITLE 0604768A Brilli	ritle Brilliant A	nti-Armo	PE NUMBER AND TITLE 0604768A Brilliant Anti-Armor (BAT) Submunition	Submuni	ition	
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	115088	194831	180407	177728	137525	152990	100569		6760	1702995
D641 BAT CONTROLL OF THE BAT CONTROLL OF THE BAT CONTROLL OF THE BAT CONTROL OF THE BAT C	90379	96324	68622	24789	0	0	0		0	917211
Libeac, BAT P3I	14954	36121	34221	64804	64137	70938	37238		0	322413
D688 ATACMS BLK II	9755	62095	77559	76779	36319	13296	2146		0	277949
D686 ATACMS BLK IIA	0	0	0	11133	35990	63888	61185		6760	179067
D2NT BAT Operational Test	0	291	5	223	1079	4757	0		0	6355

armored targets and other cargets of high value. The ATACMS BLK II missile is a version of the currently fielded and combat-proven Army TACMS Block I missile and is forces and long range weapons at ranges in excess of 100 kilometers before they can influence the maneuver battle. In the past, the only options have been to engage these designed to carry 13 BAT PAT P31 submunitions. The ATACMS BLK IIA missile is an extended range version of the ATACMS BLK II missile and will carry 6 BAT submunitions are carried deep and enritory by the two Army TACMS variants, then dispensed over a large target array to selectively attack and destroy individual includes the EAT submunition, a pre-planned product improvement (P3I) BAT submunition, the Army Tactical Missile System Block II (ATACMS BLK II) missile, and human interaction. It is an unpowered, aerodynamically stable vehicle, approximately 36 inches long, 5.5 inches in diameter and weighs 44 pounds. BAT and BAT P3I the ATACMS BLK IIA missile. BAT is a dual-sensor (acoustic and infrared) submunition that autonomously seeks out and destroys moving armored vehicles without targets. The BAT P31 programment improve the sensor and warhead subassemblies to increase lethality and to enable the BAT submunition to attack cold, stationary, reduces this risk through its autonomous acquisition and terminal guidance capabilities to attack well defended armored forces behind enemy lines. The BAT system Mission Description and Budget Item Justification: The BAT system supports the Army's deep fires doctrine that calls for the destruction and disruption of threat targets with attack helicopters or fixed wing aircraft. While effective, these options place critical resources and their air crews at risk. The BAT system significantly P3I submunitions out to range on excess of 200 kilometers. The projects in this Program Element support research efforts in the engineering and manufacturing development phases of the acquisition strategy and are therefore correctly placed in Budget Activity 5.

Page I of 14 Pages

Exhibit R-2 (PE 0604768A)

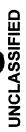




RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICAT	IS NOI	HEET (R	-2 Exhi	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PE NU 060	PE NUMBER AND TITLE 0604768A Brilli	TITLE STIlliant A	nti-Armo	r (BAT)	סידורנב Brilliant Anti-Armor (BAT) Submunition		PROJECT D641
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D641 BAT	90379	96324	68622	24789	0	0	0		0	917211
A. Mission Description and Budget Item Justification: Project D641-BAT: The BAT submunition is an unpowered, aerodynamically stable vehicle approximately 36 inches long, 5.5 inches in diameter, and weighs 44 pounds. The BAT is an acoustic and infrared terminally guided submunition that searches for, tracks, and destroys armored, mobile targets. BAT submunitions are carried deep into enemy territory by a variant of the Army Tactical Missile System (ATACMS), then dispensed over numerous high-payoff targets to selectively attack and destroy individual targets. By utilizing acoustic technology, BAT has the advantage of a large footprint which allows it to compensate for target location errors. Being a certified round, the BAT submunition has a low sustainment cost.	ation: Proje counds. The ried deep intended destroy in certified roun	et D641-BA BAT is an ac enemy terr dividual targ d, the BAT	T: The BA coustic and it itory by a vates. By utiliant itom	T submuniti nfrared term uriant of the izing acousti has a low su	on is an unp inally guide Army Tacti c technolog	owered, aerc d submuniti sal Missile S y, BAT has t ost.	odynamicall on that sear ystem (AT/ the advantag	y stable vehi ches for, trac ACMS), then ge of a large	icle approxin ks, and desti dispensed o footprint wh	nately 36 oys ver ich allows
Acquisition Strategy: The BAT system is a sole source EMD program.	urce EMD p	ogram.								
FY 1995 Accomplishments: • 55695 Conduct EMD Program • 25884 Conduct Carrier Integration Activities and other studies • 8800 Conduct Test Range and Target Operation, Maintenance and Improvements	ctivities and et Operation,	other studies	e and Impro	vements						
, Į										
	ctivities and et Operation, on not availab	other studies, Maintenance	i e and Imprc tion	vements						
2114 SBIR/STTR decrements Total 96324										
 FY 1997 Planned Program: 56364 Conduct EMD Program 5458 Conduct Carrier Integration Activities and other studies 6800 Conduct Test Range and Target Operation, Maintenance and Improvements Total 68622 	ctivities and et Operation,	other studies Maintenanc	; e and Imprc	vements						
Total Section Control			,	,			: - 1	! ! !		
Project D641			Page 2 of 14 Pages	4 Pages			Exhir	Exhibit R-2 (PE 0604/68A)	J604 / 68A)	

RDT&E BUDGET ITEM JUSTIFICATION	N SHEET (FICATION SHEET (R-2 Exhibit)	DATE March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604768A Brilli	ਹ ਸਾਜ਼ੁਸ਼ Brilliant Anti-Armor (BAT) Submunition		Р ROJECT D641
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) 90379	FY 1996 99028	F <u>Y 1997</u> 71525		
Adjustment to FY 1995 Appropriated Amount (FY 1996) Adjustment to FY 1 76 Adjustments to Budget ar (FY 1997) since FY 1996 President's Laget Current President's Budget Submit	97297 -973 96324	-2903 68622		
Change Summary Explanation: FY 1996 funding adjustment due to Revised Economic Assumptions (-973). FV 1997 funding adjustment due to Revised Economic Assumptions/Improved Management Savings (-2903).	onomic Assumptio onomic Assumptio	ns (-973). ns/Improved Management Savin	gs (-2903).	
C. Other Program Funding Summary FY 1995 FY 1996 F Missile Procurement, Army CA 6100 BAT	FY 1997 FY 1998 120878	8 FY 1999 FY 2000 FY 8 102805 180735 21	To Complete 211233 1275738	Total <u>Cost</u> 1891389
D. Schedule Profile 1 2 3 4	FY 1996 2 3	FY 1997 4 1 2 3	4	·
		× ×		
Project D641	Page 3 of 14 Pages		Exhibit R-2 (PE 0604768A)	
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RDT&E PROGRAM ELEMENT/PR	PROJECT COST BREAKDOWN (R-3)	OST BI	REAKDO	WN (R-	3)	DATE March 1996	9661
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604768A Brilli	AND TITLE	nt Anti-Ar	mor (BAT)	этте Brilliant Anti-Armor (BAT) Submunition	PROJECT D641
A. Project Cost Breakdown	FY 1995	ː	FY 1996	FY 1997			
Contractor Engr Support	74386		77679	51301			
Developineinal 1 est & Evandanon Program Management Spt	5389	, -	6572	4645			
Program Management Personnel	5937		0629	6586			
Total	90379	6	96324	68622			
B. Budget Acquisition History and Planning Information							
D. Duuger Augustion Tiskot y and Language and Control of the Contr							
Performing Organizations							
Method/Type	Project	Total				,	
or Funding Obligation	Office	Prior to	3001 333	7001 780	EW 1007	Budget to	
Activity Section Vehicle Date EAC Product Development Organizations	EAC	FY 1995	FY 1995	FY 1996	FY 1997	Complete	re Frogram
Northrop Street SS/CPAF/ 5 Jun 91	549300	470806	74386	61911	51301	20464	54 694636
Corp CPFF		,			,	,	
In-House Support PO OCT		51626	5937	0629	9859	1329	29 72268
Support and Management Organizations		50149	2908	1809	2513	∞	825 58204
00/0111				0			
Misc OGA PO OCT		40449	2481	4763	2132	6	961 50786
Activities							
Lest and Evaluation Organizations Range Support PO		13987	1894	2854	2958	9	612 22305
PO		10080	2773	2429	3132	5	598 19012
Government Furnished Property: Not applicable.						-	
		677437	90373	07770	79873	21703	766004
Subtotal Product Development Subtotal Support and Management		90598	5389	6572	4645	1786	
Subtotal Test and Evaluation		24067	4667	5283	0609	1210	
Total Project		637097	90379	96324	68622	24789	89 917211
Project D641	Page	Page 4 of 14 Pages	es		Exhi	Exhibit R-3 (PE 0604768A)	(A)
		000					

RDT&E BUDGET ITEM JUSTI	EM JUS	TIFICA	TION SI	HEET (R	IFICATION SHEET (R-2 Exhibit)	bit)		DATE	March 1996	9
вирсет астіліту 5 - Engineering and Manufacturing Developmer	evelopm	ent	PE NI 0 00	PE NUMBER AND TITLE 0604768A Brilli	E NUMBER AND TITLE JEOUTH (BAT) Submunition	nti-Armo	or (BAT)	Submuni		PROJECT D687
(s, mou u) LOOX (w)	95 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D687 BAT P3I	14954	36121	34221	64804	64137	70938	37238		0	322413

certified round, the BAT P31 abmunition is a low sustainment cost. This program will incorporate new seeker, warhead, and microprocessor technologies into the current vehicles, cold stationary are ored combat vehicles, Surface-to-Surface missile (SSM) Transporter Erector Launchers (TELs), and Heavy Multiple Rocket Launchers (MRL). configurations. The BAT 31 is a multi-sensored, terminally guided submunition that searches for, tracks, and destroys specific targets including mobile armored combat BAT configuration while main nining the current BAT form, fit design and maximum commonality of BAT components. This program includes studies/demonstrations BAT P3I submunitions are carried deep into enemy territory by variants of the Army Tactical Missile System (ATACMS), then dispensed over numerous high-payoff targets to selectively attack and destroy individual targets. BAT P3I is intended to increase submunition lethality and expand the target arrays to be attacked. Being a A. Mission Description and Budget Item Justification: Project D687-BAT P31: The BAT P31 submunition maintains the BAT length, diameter, and weight pertaining to technology advancements, alternate carriers, target recognition, and acoustic/infrared/millimeter wave characterization of expanded target sets.

Acquisition Strategy: The BAT P3I system is a sole source demonstration validation program with competitive seeker subcontractors.

FY 1995 Accomplishme

FY 1996 Planned Program:

- 30260 Conduct P3I DEM/VAL Phase II program
- 3958 Hardware-in-the-Loop (long lead and design)
 - 996 Test Range/Warhead Activities
- 101 Revised Economic Assumption not available for execution
 - 806 SBIR/STTR decraments
- Total 3612

Project D687

008

Page 5 of 14 Pages

Exhibit R-2 (PE 0604768A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (March 1996	
BUDGET ACTIVITY 5 Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604768A Brilli	PE NUMBER AND TITLE 0604768A Brilliant Anti-Armor (BAT) Submunition		PROJECT D687
 FY 1997 Planned Program: 30842 Conduct P3I DEM/VAL Phase II program 1615 Develop Warhead Lethality Models 1764 Conduct Captive Flight Tests Total				
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) 14954	FY 1996 37136	<u>FY 1997</u> 34742		
Adjustment to FY 1995) Appropriated Amount (FY 1996) Adjustment to FY 1996	36486 -365			
Adjustments to (FY 1995) Appropriated Value Adjustments to Budget Year (FY 1997) since		-521		
FY 1996 President's Budget Submit Current President's Budget Submit	36121	34221		
Change Summary Explanation: FY 1996 funding adjustment due to Revised Economic Assumptions (-365) FY 1997 funding adjustment due to Revised Economic Assumptions/Improved Management Savings (-521).	conomic Assumption conomic Assumptior	ns (-365) ns/Improved Management Savings (-52	1).	
C. Other Program Funding Summary: There are no other related RDT&E or other appropriation efforts.	r other appropriation	ı efforts.		
D. Schedule Profile 1 2 3 4	FY 1996	FY 1997 4 1 2 3 4		
Dem Val Phase II CA Captive Flight Tests (CFT) Target Signature Collection Hardware-in-the-Loop Critical Design Review	*	×		
*Milestone completed				
Project D687	Page 6 of 14 Pages	Exhib	Exhibit R-2 (PE 0604768A)	
	100			

891

RDT&E PROGRAM ELEMENT/P	SRAM EL	EMENT/PRC	JECT C	SOST BE	REAKDO	ROJECT COST BREAKDOWN (R-3)	3)	DATE March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Mai	uring	uring Pevelopment		PE NUMBER AND TITLE 0604768A Brilli	AND TITLE A Brillia	nt Anti-Ar	mor (BAT)	אוזונב Brilliant Anti-Armor (BAT) Submunition	PROJECT D687
A. Project Cost Break down Contract Engineering Surrout Developmental Test & E uation Program Management Support Program Management Personnel Total B. Budget Acquisition History and Planning Information	d Planning Inf	ormation or the state of the st	FY 1995 9990 955 1749 2260 14954	27.2 27.2 36.	FY 1996 27442 520 1554 6605 36121	EY 1997 25695 2119 2190 4217 34221			
Performing Organizations Contractor or Contract Government N 4/Type Performing o 7 Activity	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	to Total
ment C	DEC		264140		0666	27442	25695	201013	13 264140
	OCT				2260	9099	4217	20864	64 33946
nd Management Org rog SS-CPFF	NOV				710	458	645	31	3100 4913
Misc OGA PO	OCT				1039	1096	1545	18	1870 5550
Test and Evaluation Organizations Range Support PO Other Test PO Activities	oct oct				25 930	75 445	764 1355	47 55	4700 5564 5570 8300
Government Furnished Property: Not applicable.	: Not applicabl	ο̈́							
Project D687			Page	Page 7 of 14 Pages	es		Exhil	Exhibit R-3 (PE 0604768A)	8A)
				COO					





RDT&E PROGRAM EI EMENT	PRO IECT COST BREAKDOWN (R-3)	OWN (R-	3	DATE	9008
				Warcii 1990	1990
BUDGET ACTIVITY - 5 - Engineering and Manufacturing Development	DE NUMBER AND TITLE 0604768A Brillia	ant Anti-Ar	mor (BAT)	Brilliant Anti-Armor (BAT) Submunition	PROJECT D687
	Total			,	
		7001	1000	Budget to	
Section 1. Section 2. Section 3.	FY 1995 FY 1995	24047	7997	Complete 221877	te <u>Program</u>
Subtoral Sumort and Management	1749	1554	2190	4970	_
Subtotal Test and Evaluation	955	520	2119	10270	
Total Project	14954	36121	34221	237117	17 322413
· · · · · · · · · · · · · · · · · · ·					
25.00					
OF CENTRAL CONTROL OF					
	Dags 9 of 14 Dags		T 47	(A 974) 5 7 (DE 0604769A)	()
Project D68/	18e o o) 14 l uges		באווור	NL N-3 (PE 0004/0	2
	893				

RDT SEBUDGET ITEM JUST	EM JUS		TION SE	FICATION SHEET (R-2 Exhibit)	-2 Exhil	oit)		DAIE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developmer	evelopm	ent	PE NU 060	PE NUMBER AND TITLE 0604768A Brilliant Anti-Armor (BAT) Submunition	ritle srilliant A	nti-Armo	r (BAT) §	Submuni		РRОЈЕСТ D688
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D688 ATACMS BLK II	9755	62095	77559	76779	36319	13296	2146		0	277949

A. Mission Description and Budget Item Justification: Project D688-Army Tactical Missiles System Block II: The Army Tactical Missile System Block II (ATACMS BLK II is to delay, disrupt, neutralize, or destroy armored combat vehicles and other postulated high-payoff targets. Once the BAT P3I submunition is incorporated into the BLK II) will be a ground launched, solid propellant, inertially guided (GPS aided) missile system with 13 BATs or P3I BATs as its payload. The mission of the ATACMS track and destroy numerous Eath-payoff targets. Global Positioning System (GPS) technology will increase accuracy in flight, reducing target location errors. ATACMS transporter/launchers. ATACMS BLK II will carry and dispense BAT and BAT P3I submunitions deep in enemy territory where these submunitions will automatically ATACMS BLK II, these targets will include cold stationary armored combat vehicles, mobile armored combat vehicles, heavy multiple rocket launchers and missile BLK II will be launched from the M270 launcher. Further, these funds will allow for future improvement program studies/demonstrations pertaining to technology advancements, payload variants, propulsion, guidance and control, and fire control improvements. This includes studies addressing Block II integration with other

Acquisition Strategy: The Army Tactical Missile System Block II is a sole source performance specification requirement program.

FY 1995 Accomplishments:

- 895 DA IPR
- 1455 Complete Preliminary Design Support
- 7405 Continued Development Contract Award
- tal 975

FY 1996 Planned Program:

- Conduct Continued Development including initiation of Block II/BAT Integration Activities.
- 500 Prepare to conduct Sled Tests
- 317 Conduct Range Planning and Activities to Accommodate Block II Flight Tests
 - 7000 Accelerate planned activities for an early Development Flight Test
 - 174 Revised Economic Assumption not available for execution
- 1386 SBIR/STTR decrements
 - 1000

Project D688

Page 9 of 14 Pages

Exhibit R-2 (PE 0604768A)





RDT&E BUDGET ITEM JUSTIFICATION	IIFICATION SHEET (R-2 Exhibit)	-2 Exhibit)	DAIE March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604768A Brilli	ਮਸਸ਼ Brilliant Anti-Armor (BAT) Submunition		PROJECT D688
FY 1997 Planned Program: 74832 Conduct CD Program including initiation of Block II/BAT Integration Activities. 450 Conduct Sled Tests (OGA) 2027 Prepare for Conduct of PPT Test Program (OGA) 250 Studies, development, and validation of future improvement programs T7559	f Integration Activitie	ý		
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995	<u>FY 1996</u> 56840	F <u>Y 1997</u> 77916		
Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since	62723 -628	-357		
Current President's Budget Submit	62095	77559		
Change Summary Explanation: FY 1996 funding adjustment due to Revised Edition FY 1997 funding adjustment due to Economic	to Revised Economic Assumptions (-628). to Economic Assumptions/Improved Mana	to Revised Economic Assumptions (-628). to Economic Assumptions/Improved Management Savings (-357).		
C. Other Program Funding Summary EY 1995 FY 1996 Missile Procurement, Army CA 6105 ATACMS BLK II	FY 1997 FY 1998	FY 1999 FY 2000 FY 2001 61341 82567 126787	To <u>Complete</u> 7 830130	Total <u>Cost</u> 1100825
ule Profile 1 2 3 4	FY 1996 1 2 3 X* X	FY 1997 4 1 2 3 4 X		
Sled Lest CDR DA IPR PDR *Milestone Completed		× ×		
and the second s	Page 10 of 14 Pages	Exh	Exhibit R-2 (PE 0604768A)	

895

RDT&E PRCGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	RAM ELEI	MENT/PRC	JECT C	OST BE	REAKDO	WN (R-	<u></u>	DATE March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	facturing De	velopment		PE NUMBER AND TITLE 0604768A Brilli	AND TITLE A Brillian	nt Anti-Arı	mor (BAT)	ਹ गाराट Brilliant Anti-Armor (BAT) Submunition	РРОЈЕСТ D688
A. Project Cost Breakdown Contractor Engr Support Development Test & Eval Program Management Spt Program Management Personnel Total B. Budget Acquisition Hists	Planning Information	mation	FY 1995 7405 67 1223 1060 9755	FP 55	FY 1996 53592 1177 3503 3823 62095	FY 1997 62438 3073 6971 5077 77559			
Performing Organizatiors Contract Government Method/Type Performing or Funding Activity	Award or Obligation <u>Oate</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to <u>Complete</u>	to Total
Froduct Development Organizations Loral Vought SS/CPIF In-House Support PO	IIS JULY 95 OCT		197808		7405 1060	53592 3823	62438 5077	74373 17526	73 197808 26 27486
Support and Management Organizations SETA & Program SS/CPFF OCT	zations OCT				1223	3503	6971	6183	83 17880
Mgmt Spt Test and Evaluation Organizations Range Support Other Test Activities	oct oct				<i>L</i> 9	817 360	2477 596	20617	17 23911 41 10864
Government Furnished Property: Not applicable.	Not applicable.								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project					8465 1223 67 9755	57415 3503 1177 62095	67515 6971 3073 77559	91899 6183 30458 128540	99 225294 83 17880 58 34775 40 277949
Project D688			Page	Page 11 of 14 Pages	ges		Exh	Exhibit R-3 (PE 0604768A)	3A)



RDT&E BUDGET ITEM JUST	EM JUS	TIFICA	TION S	TIFICATION SHEET (R-2 Exhibit)	k-2 Exhi	bit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Jevelopm	ent	PE NI 060	PE NUMBER AND TITLE 0604768A Brilli	ritle Srilliant A	E NUMBER AND TITLE 3604768A Brilliant Anti-Armor (BAT) Submunition	ır (BAT) (Submuni		РКОЈЕСТ D688
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D2NT BAT OPERATIONAL TEST	0	291	5	223	1079	4757	0		0	6355

A. Mission Description and Budget Item Justification: Project D2NT-OPTEC: Project D2NT finances the direct costs of planning and conducting operational testing and evaluation of the BAT submunition by the Operational Test and Evaluation Command (OPTEC). The BAT submunition is an Acquisition Category (ACAT) I system conditions, as similar as possible, to those encountered in actual combat with typical user troops trained to employ the system. OPTEC provides the Army leadership with an independent test and evaluation of both the effectiveness and suitability of the system. Project D2NT is not a new start. It is restructured from PE 0605712, Support of with a dedicated Initial Operational Test and Evaluation in FY 1998 in support of a Low Rate Initial Production (LRIP) decision. Operational testing is conducted under Operational Testing, Project D001, OPTEC Initial Operational Test and Evaluation (IOTE).

Acquisition Strategy: Not applicable.

FY 1995 Accomplishments: No planned program.

FY 1996 Planned Program:

- 284 IOTE planning and preparation
- 1 Revised Economic Assumption not available for execution
 - 6 SBIR/STTR decrements

Total 291

FY 1997 Planned Program:

- 5 IOTE planning and preparation 5

Total

897

Page 12 of 14 Pages

Project D688

Exhibit R-2 (PE 0604768A)

RDT&E BUDGET I JUSTIFICATION	N SHEET	IFICATION SHEET (R-2 Exhibit)	DATE March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604768A Brilli	ртіт <u>ге</u> Brilliant Anti-Armor (BAT) Submunition		Р R ОЈЕСТ D686
B. Project Change Summ Previous President's Budget 36)	FY 1996 299	FY 1997 1791		
Adjustment to FY 1995 Adjustment to FY 1996 Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since	294	-1786		
FY 1996 President's Budget Current President's Budget Submit	291	5		
Change Summary Explanation: FY 1996; Revised Economic Assumptions (-3). FY 1997; Funding not required in FY 97 (-1786).				
C. Other Program Funding Summary: There are no other related RDT&E or other appropriation efforts.	other appropriati	n efforts.		
D. Schedule Profile 1 2 3 4 1	FY 1996 2 3 x	FY 1997 4 1 2 3	4	
		:		
			7 A 0 0 T T 1 A 0 T 2	
Project D686	Page 13 of 14 Pages		EXNIBIT K-2 (PE U6U4/68A)	
	×6×			



BUDGET ACTIVITY A. Project Cost Breakdawn Operational Test and Evaluation Organizations Support and Management Organizations: Subtotal Su	PROJECT COST BREAKDOWN (R-3)	March 1996	900
ingineering and Manufacturing Development Signature of the stand Evaluation Truing Organizations actor. or Contract Truing Organizations The stand Management Organizations: None and Evaluation Organizations: Not applicable.	A AND TITLE		PROJECT
tional Test and Evaluation Idget Acquisition History and Planning Information rming Organizations actor.or Contract rming Organizations actor.or Contract rming Organizations actor.or Contract rming Organizations rming or Funding Obligation Activity Office Prior to ity Vehicle Date EAC FY 1995 FY 1995 ity Vehicle Date EAC FY 1995 ity Vehicle Date Test Test rminent Furnished Property: Not applicable. tal Support and Management tal Support and Management tal Support and Evaluation Project Project FY 1995 FY 1995	8A Brilliant Anti-Armor (BAT) Submunition	3AT) Submunition	D686
Award or Performing Project Total Obligation Activity Office Prior to Date EAC EAC FY 1995 FY 1995 it None tions: None	1996 FY 1997 291 5 291 5		
Award or Performing Project Total Obligation Activity Office Prior to Date EAC FY 1995 S: None stions: None Not applicable.			
Product Development Organizations: None Support and Management Organizations: None Test and Evaluation Organizations Other Test Activities Government Furnished Property: Not applicable. Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	FY 199 <u>5</u> FY 1996 FY 1997	Budget to Complete	Total <u>Program</u>
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	291	5 6059	6355
	291 291	5 6059 5 6059	6355 6355
Project D686	ıges	Exhibit R-3 (PE 0604768A)	3

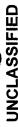
RD POBET ITEM JUSTI	EM JUS	TIFICA	FION SE	IFICATION SHEET (R-2 Exhibit)	-2 Exhil	bit)		DAIE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Magufacturing Developmen	evelopm	ent	PE NC 090	PE NUMBER AND TITLE 0604770A Joint Surveillance/Target Attack Radar	TTLE oint Surv	reillance/	Target A	ttack Ra	dar	
			Sys	System						
A COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	37789	27480	9857	7202	6068	4797	14238		Continuing	Continuing Continuing
D202 Army Joint STARS (TIARA)	34482	25747	9857	7202	6068	4797	14238		Continuing	Continuing Continuing
D2CT JSTARS Operational Test (TIARA)	3307	1733	0	0	0	0	0		0	5040

area surveillance and target attack radar system capable of continuous coverage out to a depth in excess of 100km beyond their Forward Line of Troops. Commanders must develop a radar, datalink, ground station, and airframe that will provide the capability to locate, track and classify tracked and wheeled vehicles beyond ground line-of-sight have the capability to detect, locate, classify and track moving and stationary targets for situation assessment to avoid surprise and attack targets out to the range of existing during the day and night and under most weather conditions. Radar data is distributed to ground station modules via a secure surveillance and control data link. The Army and developing weapons. The Joint Surveillance and Target Attack Radar System (JSTARS) provides battle management and targeting of enemy units at critical times and Mission Description and Budget Item Justification: This is a Tactical Intelligence and Related Activities (TIARA) program. US Forces have an urgent need for a widewill develop the ground components of the JSTARS under this PE, project D202. Also included in this PE is project D2CT with FY 95 and FY 96 funding for the Multiservice Operational Test and Evaluation (MOTE). The projects in this program element support development efforts in the Engineering and Manufacturing development places so commanders can employ their organic forces and firepower in support of deep, close and rear operations. The joint Army/Air Force program objective is to fore correctly placed in Budget Activity 5. phases of the Acquisition Strategy and are

Page 1 of 10 Pages

Exhibit R-2 (PE 0604770A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICAL	TION SE	HEET (R	-2 Exhit	oit)		DATE	March 1996	40
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PE NU 060 Sys	PE NUMBER AND TITLE 0604770A Joint System	गाट oint Surv	eillance/	Target A	E NUMBER AND TITLE 0604770A Joint Surveillance/Target Attack Radar System		РКОЈЕСТ D202
.GOST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D202 Army Joint STARS (TIARA)	34482	25747	9857	7202	8909	4797	14238		Continuing Continuing	Continuing

the development of the Block II GSM now called the Common Ground Station (CGS). The CGS will integrate signal, imagery, and other intelligence processing into a A. Mission Description and Justification: The Army will develop the ground components of the JSTARS under this PE/Project. The Ground Station Module (GSM) is Integrated Command Post Shelter (SICPS) and mounted on a High Mobility Multi Purpose Wheeled Vehicle (HMMWV). A Block I Heavy GSM (HGSM) prototype was also assembled. This variant integrated the GSM prime mission equipment into a Command and Control Vehicle (C2V) (a Bradley variant). Also included in this project is Significant enhancements include: integration of Secondary Imagery Dissemination, spare full design/test of the tracked vehicle (heavy) variant, and integration/interface various allied sensors, as part of the NATO Alliance Ground Surveillance (NAGS) Program. A NAGS Project Office has been established to assess the various alternatives being developed in a Block approach. Block I GSMs utilize the same prime mission equipment and will be developed and deployed on different platforms. The Block I Medium GSM (MGSM) is housed in a standard S280 shelter and mounted on a 5 Ton Truck. The rapidly deployable Block I Light GSM (LGSM) is housed in a Standard single ground station, resulting in enhanced battle management as well as significant cost savings. These enhancements are being implemented in a phased approach. with other sensor systems. This project also includes FY 95 funding for interoperability/system performance assessments between the JSTARS Ground Stations and and select the final airborne and ground components. In FY 96, a new PE 1001018A was established to continue the NATO effort.

Acquisition Strategy: In December 1995, the JSTARS Ground Station Program awarded an eight year (basic plus seven (7) one year options) production contract to acquire the balance of ground stations required to meet Army needs. The first two years of the contract are Low Rate Initial Production (LRIP) with the first deliveries participating development and test of various Pre - Planned Product Improvements (P3Is). Following P3I prove out, the modifications are folded into the Production contract via fixed in a November 1997 Operational Test. This test will support the Milestone three decision scheduled for May 1998. The contract also includes provisions for the design, price contract revisions.

FY 1995 Accomplishments:

- 306 Obtained Block I Light LRIP Decision
- 4313 Completed Data Link Mast Head Redesign
- 4866 Released CGS Solicitation
- 19485 Continued LGSM EMD Program
- 4012 Completed LGSM Software Stress Testing
- 1500 Initiated NATO Alliance Ground Surveillance Support
- otal 34482

Project D202

Exhibit R-2 (PE 0604770A)

Page 2 of 10 Pages

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R.		DATE March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604770A Joint	PE NUMBER AND TITLE 0604770A Joint Surveillance/Target Attack Radar		PROJECT D202
	System			
 FY 1996 Planned Program: 1834 Complete LGSM EMD Program 12559 Initiate Phase I CGS Design/System Enhancements 1220 Conduct CGS Phase I Critical Design Review (CDR) \$60 * Continue NATO Alliance Ground Surveillance Support 561 SBIR/STTR reduction not available for execution 73 Revised Economic Assumption not available for execution Total 25747 FY 1997 Planned Program: 7282 Complete CGS Phase I Integration 				
Complete CGS Phase I Technical/User Assessment Continue NATO ABS				
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) A disconnected to EV 1005	<u>FY 1996</u> 16990	<u>FY 1997</u> 7884		
unent to FT 1995 riated Amount (FY 199€) nents to FY 1996 nents to BY (FY 1997) since FY 1996 Presidents	26007 -260	1973		
Budget Current President Budget Submit	25747	9857		
Change Summary Explanation: Funding: FY 95 reduction for federally funded research development center rescission (-50) FY 95 reprogramming into project for NAGS (+1500) FY 96 Revised Economic Assumption (-260) *FY 96 OSD moved funds to PE 10108A FY97 Revised Inflation Rates (-327) FY97 Reprog	ter rescission (-50)			
Project D202	Page 3 of 10 Pages	Exhib	Exhibit R-2 (PE 0604770A)	





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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TEM JUST	IFICAT	ION SHI	EET (R-	2 Exhib	it)		DATE March 1996	1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	Developme	ent	PE NUM 0604	PE NUMBER AND TITLE 0604770A Joint	TLE Sint Surv	eillance/	Target A	PE NUMBER AND TITLE 0604770A Joint Surveillance/Target Attack Radar	PROJECT D202	2
			System	em						
Change Summary Explanation: (continued) Schedule: FY 96 Milestone III decision moved from FY 96 to FY98 per approved acquisition strategy. FY 96 production contract redesignated LRIP.	ed) decision moved	from FY 96	to FY98 per	approved a	cquisition st	rategy. FY	96 product	ion contract redesig	gnated LRI	P.
· 化有效分子 人名英格兰人姓氏克里特的变体 化二氯化甲基苯酚 医克里克氏病 医克克氏病										
C. Other Program Funding Summary								Č	To	Total
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	3	Compi	Cost
BA1080 Joint STARS Army TIARA Funding	3063	803/0	82478	600/8	0000/	104290	102400		11100	
BS9724		3659	8770	5748	11222	10782	6269			
D. Schedule Profile	FY 1995		FY	FY 1996		FY 1997	7			
	2 3	4	1 2	co.	4 1	7	3 4			
Complete LGSM Software Stress Testing X* Release CGS Draft Solicitation X* Obtain Block I Light LRIP Decision	* *									
Released final CGS Solicitation CGS LRIP Award	*		**							
			×	>						
Complete LGSM EMD Program				<	×					
st					×		;			
First CSG LRIP delivery							× ×			
										i .
1.										
Project D202			Page 4 of 10 Pages) Pages			Exhib	Exhibit R-2 (PE 0604770A)	70A)	
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903

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	GRAM EL	EMENT/PR	OJECT (COST BI	ZEAKDO	JWN (R-	3)	DATE	March 1996	96
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developmo	ufacturing [Jevelopment		PE NUMBER AND TITLE 0604770A Joint System	AND TITLE A Joint	Surveillan	ıce/Target	PE NUMBER AND TITLE 0604770A Joint Surveillance/Target Attack Radar System	ıdar	PROJECT D202
A. Project Cost Breakdown Primary Hardware Development Software Development Integrated Logistics Support Developmental/Operational Test and Evaluation Contractor Engineering Support Government Engineering Support Program Management Support Program Management Personnel Revised economic assumption not available for execution SBIR/STTR reduction not available for execution Total B. Budget Acquisition History and Planning Information Contractor or Contract Government Method/Type Award or Perform	nd Evaluation available for exe for execution and Planning Inf	cution or mation	EY 1995 19741 5212 388 783 4530 564 1451 1813 34482	Fy	FY 1996 9681 7251 265 650 4272 435 885 1674 73 561 25747	FY 1997 1180 1164 270 800 3921 360 915 1247				
'elopmen	Obligation <u>Date</u>	Activity EAC	Office EAC	Prior to FY 1995	FY 1995	FY 199 <u>6</u>	FY 1997	Budget to Complete	Total <u>Program</u>	
Motorola SS/CPFF (92-C-L001)	May 92	99572	99572	81312	17359	901	0	0	99572	
Motorola SS/CPFF (91-C-L006)	Sep 91	10780	11150	11150	0	0	0	0	11150	
Motorola SS/CPFF (93-C-K257)	Sep 93	9280	9280	4750	4530	0	0	0	9280	
Motorola SS/CPFF (96-C-S201)	Nov 95	10717	10911	0	0	3350	4248	3313	10911	
Motorola C/CFP (96-C-S204)	Dec 95	13102	13102	0	0	10238	2244	620	13102	
Project D202			Pag	Page 5 of 10 Pages	ies		Ex	Exhibit R-3 (PE 0604770A)	0604770A	



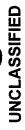


			O INVAIC		DATE		
RDI & PROGRAM ELEMEN / PROJECT	I COST BREANDOWN (R-3)	KEAND	-WIN (IX-	/(c	4 P	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604770A Joint	AND TITLE	Surveillan	ce/Target	ਹ ਸπ∟ Joint Surveillance/Target Attack Radar		PROJECT D202
	Oystern						
r or Contract ant Method/Type Award or Performing Pr g or Funding Obligation Activity C		100¢	2001 VII	EV 1007	Budget to	Total	
Activity Vehicle Date EAC EAC Motorola SS/CPFF Aug 95 N/A 1500	0 0	1500	5701	0		7201	
	5 4000	2000	1156	0	0	7156	
Š	0 (2700	0	0	0	2700	
SS	1374	862	9	0	0	2242	
(93-C-0166) Support and Management Organizations OFCOM		1060	592	495			
agement		1759 1629	1374 845	1047 723			
and Evaluation Organiza		783	650	800			
Government Furnished Property Contract Method/Type Award or	Total						4 ***
Item or Funding Obligation Delivery Description Vehicle Date Date	Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Property Various Reqn	300	300	300	300	Cont	Cont	
Support and Management Property: N/A Test and Evaluation Property: N/A							
Control of the Contro							
To the state of th							
Project D202	Page 6 of 10 Pages	ges		EX	Exhibit R-3 (PE 0604770A)	0604770A)	

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RDT&E PROGRAM ELEMENT/PROJECT	ROJECT COST BREAKDOWN (R-3)	EAKDO	WN (R-	<u>@</u>	DATE	March 1996	9
вирает Астіу'тү 5 - Engine ering and Manufacturing Development	PE NUMBER AND TITLE 0604770A Joint System	A Joint S	PE NUMBER AND TITLE 0604770A Joint Surveillance/Target Attack Radar System	ce/Target	Attack Ra		Р R ОЈЕСТ D202
Subtotal Funds Not Available for Execution. Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	Total Prior to FY 1995 102886	FY 1995 29251 4448 783 34482	FY 1996 634 21652 2811 650 25747	FY 1997 6792 2265 800 9857	Budget to Complete Cont Cont Cont Cont	Total Program Cont Cont Cont Cont	
Project D202	Page 7 of 10 Pages	83		Ĕ	Exhibit R-3 (PE 0604770A)	0604770A)	
	700						





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICAT	IS NOIL	HEET (R	-2 Exhi	bit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Jevelopm	ent	PENU 060 Sys	PE NUMBER AND TITLE 0604770A Joint System	oint Sur	/eillance	Target ⊿	PE NUMBER AND TITLE 0604770A Joint Surveillance/Target Attack Radar System		PROJECT D2CT
と記念を COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D2CT JSTARS Operational Test (TIARA)	3307	1733	0	0	0	0	0		0	5040
A. Mission Description and Budget Item Justification - D2CT (MOTE). All MOTE activities will be completed by 2Q96. This Force for the Joint STARS Full Scale Production Decisions. (US	zation - D2C by 2Q96. Thi ecisions. (U3		provides for the Army's costs associated w Joint Service Initial Operational Test and E Air Force in FY 96 and US Army in FY98)	s costs asso erational Te I US Army i	ciated with t st and Evalu n FY98)	he Multi-Ser ation (IOT&	vice Operat E) will supp	ional Test a	provides for the Army's costs associated with the Multi-Service Operational Test and Evaluation Joint Service Initial Operational Test and Evaluation (IOT&E) will support both the US Army and US Air Force in FY 96 and US Army in FY98)	n nd US Air
Acquisition Strategy: No applicable										
FY 1995 Accomplishments:	lanning and ' f Test Hardw	Fraining are, Simulat	ors and Facil	lity						
Pro-	Reports available for e	xecution	.5							
• S Kevised economic assumption not available for execution Total 1733	on not avallad	le 101 execut	1101							
FY 1997 Planned Program: Not Funded in FY97										
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995)		EX 1995 5932 5807 -2500		FY 1996 1781	FY 1997 0					
Appropriated Amount (FY 1996)				1750	0					
Current Budget Estimate Submission		3307	7	1733	0					
			,	,				0	11000	

206

Page 8 of 10 Pages

Project D2CT

Exhibit R-2 (PE 0604770A)

RDT&E BUDGET ITEM JUSTIFICAT	ION SH	FICATION SHEET (R-2 Exhibit)	2 Exhib	it)		DATE March 1996	1996	
вирсет астіуіту 5 - Engineering and Manufacturing Development	PE NUMBER 060477 System	PE NUMBER AND TITLE 0604770A Joint System	ILE int Surv	eillance/	Target At	PE NUMBER AND TITLE 0604770A Joint Surveillance/Target Attack Radar System	PROJECT D2CT	⊢
Change Summary Explanation: Funding: FY 95 Reprogramming due to MOTE completion delay from Nov 95 to Mar 96 (-2500) FY 96 Revised Economic Assumption (-17) Technical: The MOT&E schedule has been adjusted to permit completion during Operation Joint Endeavor participation.	m Nov 95 to tion during (Mar 96 (-25 Operation Joi	00) int Endeavo	r participatie	on.			İ
C. Other Program Funding Summary						•	To T	Total
FY 1995 FY 1996 101018A NATO Joint STARS * 0 9500	FY 1997 0	$\frac{\text{FY } 1998}{0}$	FY 1999 0	FY 2000 0	$\frac{\text{FY } 2001}{0}$	Complete		Cost
BA1080 Joint STARS Army TIARA Funding 55239 80376 MA9724 3063	85428	87659	76058	104396	105486			
oved NATO funds to PE 101/518A	8770	5748	11222	10782	6269			
Y 1995	FY	FY 1996	,	FY 1997				
1 2 3 4 MOTE Pre Test Planning and Training X* MOTE Prepare MOTE Report	1 × 2	m ×	4 L	7	ε 4			
* Army will submit an internal reprogramming to move funds into newly established for NATO.	olished for N	IATO.						



Page 9 of 10 Pages

Project D2CT

Exhibit R-2 (PE 0604770A)

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BR	EAKDO	WN (R-	3)	DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604770A Joint System	ND TITLE Joint (PE NUMBER AND TITLE 0604770A Joint Surveillance/Target Attack Radar System	ce/Target	Attack Ra		PROJECT D2CT
A. <u>Project Cost Breakdown</u> Operational Test and Evaluation Revised economic assumption not available for execution	FY	1 <u>996</u> 1689 5	<u>FY 1997</u> 0				
SBIR/STTR reduction not available for execution Total B. Budget Acquisition History and Planning Information	17	39 1733	0				
Performing Organizations Contractor or Contract Government Method/Type Award or Performing Project Performing or Funding Obligation Activity Office Activity Vehicle Date EAC EAC Product Development Organizations: N/A Support and Management Organizations	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	FY 1998	Budget to Complete	Total <u>Program</u>
Test and Evaluation Organizations OPTEC MIPROS Dec 94 Government Furnished Property: N/A	0	3307	1689	0		0	4996
Subtotal Funds not Available for Execution Subtotal Product Development			44				44
Subtotal Support and Management. Subtotal Test and Evaluation Total Project		3307 3307	1689				4996 5040
				,			
Project D2CT	Page 10 of 10 Pages	S		Exh	Exhibit R-3 (PE 0604770A)	0604770A)	

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA.	FION SF	IEET (R	IFICATION SHEET (R-2 Exhibit)	bit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engincering and Manufacturing Developmen	evelopm	ent	PE NU 060 (Sp	PE NUMBER AND TITLE 0604778A Posit (Space)	OSITIONIN	PENUMBER AND TITLE 0604778A Positioning Systems Development (Space)	ns Devel	opment		
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	3336	448	437	436	424	479	476		0	19038
D163 Modular Azimuth and Positioning System (MAPS) Hybrid Product Improvement Program (PIP)	2880	0	0	0	0	0	0		0	15415
D168 NAVSTAR Global Positioning System (GPS) Equipment	456	448	437	436	424	479	476		0	3623

Mission Description and Budget Item Justification: Project D163 provides for Engineering and Manufacturing Development (EMD) of a Hybrid Modular Azimuth and Positioning System (MAPS) into one host system, the Paladin (M109A6 155mm Self-Propelled Howitzer). The MAPS will be integrated with a Global Positioning System inertial Position/Navigation (POS/NAV) errors. Project D168 provides for Army participation in the research and development phases of Army weapon systems requiring projects in this program element support research efforts in the engineering and manufacturing development phases of the acquisition strategy and are therefore correctly (GPS) receiver to provide rapid initialization and frequent updates of the inertial positioning and orientation system without need of a local survey control and will limit POS/NAV capabilities. It provides for the engineering development of several alternatives for integration of GPS receivers into selected systems. These alternatives include, but are not limited to, Embedded/Integrated GPS, Advanced GPS Receivers (AGR), Tactical GPS Anti-Jam Technology (TGAT) and Differential GPS. The placed in Budget Activity 5

Page I of 7 Pages

Exhibit R-2 (PE 0604778A)



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	FION S	HEET (R	R-2 Exhi	bit)		DATE	March 1996	9
вирсет Астіvіту 5 - Engineering and Manufacturing Developme	evelopm	ent	PE N 190 (Sp	PE NUMBER AND TITLE 0604778A Posi (Space)	TITLE Positionir	PE NUMBER AND TITLE 0604778A Positioning Systems Development (Space)	ns Deve	lopment	-	РРОЈЕСТ D163
Control of the contro	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D163 Modular Azimuth and Positioning System (MAPS) Hybrid Product Improvement Program (PIP)	2880	0	0	0	0	0	0		0	15415
A. Mission Description and Justification: Project D163 -MAPS Hybrid PIP: Maps Hybrid PIP is a product improvement of MAPS. The project is intended to improve the autonomous capability of Paladin and other potential users by decreasing their reliance on externally provided survey control points and thus increasing system effectiveness and survivability on the battlefield.	t D163 -MA ntial users by	PS Hybrid I	PIP: Maps l	Hybrid PIP is se on externa	s a product ii Ily provided	nprovement survey cont	of MAPS. ol points ar	The project id thus incr	S Hybrid PIP: Maps Hybrid PIP is a product improvement of MAPS. The project is intended to decreasing their reliance on externally provided survey control points and thus increasing system	improve 1
 FY 1995 Accomplishments: 1236 Completed Test and Evaluation 670 Completed Production and Field Retrofit Planning 974 Completed requirements towards possible type class Total 2880 	on eld Retrofit I ırds possible	Planning type classifi	cation of M	lanning type classification of MAPS Hybrid Unit	Unit					
FY 1996 Planned Program: No planned program. FY 1997 Planned Program: No planned program.										
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustments to FY 1995		FY 1995 3332 3265 -385		FY 1996	FY 1997					
Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 Presidents Budget Current President's Budget Submit		2880	0							
Change Summary Explanation: Funding: Reprogramming action between PEO FAS and Project D163	EO FAS and	I ASM, 385K	Section 19 1 Pages	t7 Pages			Exhib	oit R-2 (PE	Exhibit R-2 (PE 0604778A)	

Pring and Manufacturing Development (Space) (Space) Good AT78A Positioning Systems Developmen (Space) Frank Eunding Summary: There are no other related RDTE or other Appropriation efforts. Fry 1995 Fry 1996 Fry 1996 Fry 1997 Fry 1997 Fry 1997 A	ing and Manufacturing Development (Space) (God4778A Positioning Systems Development (God4778A Positioning Systems Development (Space)	RDT&E BUDGET ITEM JUST		FICATION SHEET (R-2 Exhibit)	рате Ма	March 1996
FY 1997	FY 1997	вирдет АСТІМІТУ 5 - Engineering and Manufacturing Devel	opment	PE NUMBER AND TITLE 0604778A Positioning Sys (Space)	stems Development	PROJECT D163
FY 1995 FY 1996 FY 1997 1 2 3 X* 1 2 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 X*	FY 1995 FY 1996 FY 1997 1 2 3 4 1 2 3 4 1 2 3 3 3 4 1 2 3 3 3 4 1 2 3 3 3 4 1 2 3 3 3 4 1 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	C. Other Program Funding Summary: There are no ot	ther related RDTE or o	other Appropriation efforts.		
Page 3 of 7 Pages	Page 3 of 7 Pages 912			4		
Page 3 of 7 Pages	Page 3 of 7 Pages	* Milestone Complete				
	Page 3 of 7 Pages Page 3 of 7 Pages					
Page 3 of 7 Pages	Page 3 of 7 Pages					
Page 3 of 7 Pages	Page 3 of 7 Pages					
Page 3 of 7 Pages	Page 3 of 7 Pages 912					
Page 3 of 7 Pages	Page 3 of 7 Pages					
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Page 3 of 7 Pages	Page 3 of 7 Pages 912					
Page 3 of 7 Pages	Page 3 of 7 Pages 912					
	912	Project D163		Page 3 of 7 Pages	Exhibit R-2 (PE 06	304778A)





RDT	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ECT CO	ST BREAKE	OWN (R-3)	DATE March 1996	96
BUDGET ACTIVITY 5 - Engineering	вироет астічту 5 - Engineering and Manufacturing Development	B 0 %	PE NUMBER AND TITLE 0604778A Positi (Space)	PE NUMBER AND TITLE 0604778A Positioning Systems Development (Space)		РКОЈЕСТ D163
A. Project Cost Breakdown Contractor Engineering Support Government Engineering Support Operational (Qual) Test & Evaluation Total B. Budget Acquisition History and I	Panning Information: N/A	FY 1995 1390 1100 390 2880	FY 1996	FY 1997		
Project D163		Page 4	Page 4 of 7 Pages	Exhik	Exhibit R-3 (PE 0604778A)	
		9,	913			

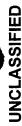
RDT&E BUDGET ITEM JUST	EM JUS		TION S	ICATION SHEET (R-2 Exhibit)	-2 Exhi	bit)		DATE M	March 1996	9
вирдет астіуіту 5 - Engineering and Manufacturing Developmen	evelopm	ent	PE N 06(PE NUMBER AND TITLE 0604778A Posit (Space)	TITLE Positionir	PE NUMBER AND TITLE 0604778A Positioning Systems Development (Space)	ns Devel	opment	<u> Н</u>	РRОЈЕСТ D168
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D168 NAVSTAR Global Positioning System (GPS) Equipment	456	448	437	436	424	479	476		0	3623
A. Mission Description and Justification: Project D168- (NAVSTAR GPS) GPS sets were used in Operation Desert Storm and proved to be a significant force multiplier. GPS assures greater of mmand and control and significantly reduces the likelihood of fratricide. New uses for GPS are being developed. These new uses require an analysis of the overall host vehalo operational POS/NAV system to support development of alternative GPS applications	ol and signif	VSTAR GI cantly redu	PS) GPS serces the likel.	ts were used thood of frati tent of altern	in Operation icide. New ative GPS ap	Desert Stornuses for GPS	n and proved are being d	d to be a signeveloped. T	nificant forc	es require
Acquisition Strategy: Perform studies and analyses of host vehicles to support development of alternative GPS applications.	s of host veh	cles to supp	ort develop	ment of alter	native GPS a	pplications.				
FY 1995 Accomplishments:	ng of GPS an ology into ne	ti-jam differ kt generatio	ential and e n user equip	mbedded tec	hnologies h insertion o	f P3I				
Total 456										
FY 1996 Planned Program: • 163 Procurement and testing of items in marketplace to remain current with NDI alternatives (to include embedding).	ems in marke	tplace to re	main curren	t with NDI a	lternatives (t	o include em	bedding).			
	lework conce	tualization (non-ly-on replacement.	(non-hardw ment.	are work)to	meet evolvir	ıg user requi	rements.			
• 10 SBIS/STTR Total 448										
FY 1997 Planned Program: • 122 Improved accuracy and time to fix studies for follow-on equipment requirements.	to fix studies	for follow-	on equipme	nt requireme	nts.					
 150 Lest program for NDI aviation GPS receiver (MAGK follow-on/replacement). 165 Improved survivability of GPS capability (renewed anti-jam/anti-spoof and other threats response). Total 437 	on GPS received a capability	er (MAGK (renewed ar	rollow-on/r nti-jam/anti-	epiacement). spoof and otl	her threats re	sponse).				
Project D168			Page 5 o	Page 5 of 7 Pages			Exhib	Exhibit R-2 (PE 0604778A)	0604778A)	



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	USTIFICATI	ON SHEET	(R-2 Exhil	oit)	DATE		March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	pment	PE NUMBER AND TITLE 0604778A Posi (Space)	ID TITLE Positionin	g Systen	PE NUMBER AND TITLE 0604778A Positioning Systems Development (Space)	ment	PROJECT D168	CT.
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995)	FY 1995 465 456	FY 1996 460	<u>FY 1997</u> 449					
Adjustments to FY 1995 Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since		452 -4	-12					
FY 1996 Presidents Budget Current President's Budget Submit	456	448	437					
Summary Change Explanation: Summary Change Explanation: Funding FY 96 (-4) the portion of this program that has been proposed for rescission. FY97 (-12) decrease due to revised inflation rates.	s been proposed for ates.	rescission.						
C. Other Program Funding Summary FY 1995 K47800, Other Procurement, Army, NAVSTAR 32104 GPS	FY 1996 48440	<u>FY 1997</u> <u>FY 1998</u> 26288 17826	18 FY 1999 16 8063	FY 2000 7943	<u>FY 2001</u> 6690	O	To <u>Compl</u> TBD	Total <u>Cost</u> TBD
D. Schedule Profile: N/A								
Project D168	į	Page 6 of 7 Pages			Exhibit R	Exhibit R-2 (PE 0604778A)	78A)	
		015						•

RDT&E PROGRAM ELEMENT/P	ROJECT	COST BREAKDOWN (R-3)	DOWN (R-3)	DATE March	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	nent	PE NUMBER AND TITLE 0604778A Posi (Space)	PE NUMBER AND TITLE 0604778A Positioning Systems Development (Space)	Jevelopment	PROJECT D168
 A. Project Cost Breakdown Developmental Test and Evaluation Government Engineering Support Contractor Engineering Support Total B. Budget Acquisition History and Fauning Information: N/A 	EY 1995 91 194 171 456 N/A	FY 1996 0 279 169 448	FY 1997 150 162 125 437		,
Project D168	Pa	Page 7 of 7 Pages		Exhibit R-3 (PE 0604778A)	78A)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION SE	JEET (R	१-2 Exhil	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development)evelopm	ent	PE N. 060	PE NUMBER AND TITLE 0604780A Com	PE NUMBER AND TITLE OCCUPING TACTICAL Trainer (CATT)	Arms T	actical T	rainer (C		PROJECT D571
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D571 Close Combat Tactical Trainer	50293	57742	26713	3033	3095	3082	3058		0	237197
All Mission Description and Budget Item Justification: Project D571 - Close Combat Tactical Trainer: The Combined Arms Tactical Trainer (CATT) is a family of combined arms simulation systems designed to support the Army's simulation-based Combined Arms Training Strategy. The specific systems that comprise CATT include Combined Arms Tactical Trainer (EVCATT), Aviation Combined Arms Tactical Trainer (ENCATT), Fire Support Combined Arms Tactical Trainer (ENCATT) and Air Defense and costly live fire and maneuver exercises as well as train tasks deemed too hazardous to conduct in the field. Fielded in both fixed site and mobile/transportable versions, CATT enables both Active and Reserve component units to prepare for real world contingency missions. Units taking their CATT systems with them on operational deployments, such as peacekeeping missions, are able to sustain essential warfighting skills when not at their home station. By being able to process a wide array of terrain data bases and modify the behavior of the computer generated opposing forces, CATT offers a virtually unlimited array of training options to support the Army's many regional contingency missions. The combination of tough field and live fire training and realistic simulation training in CATT is the catalyst to prepare soldiers and their leaders for the uncertainties they will face in an unpredictable world. The projects in this program elem	ation: Project the Arm combined Arm combined Arm is Defense C a realistic, in cost effective instration proostly live fire enables both its, such as preses and modal contingen or the uncert	ect D571 - C y's simulatic ms Tactical ombined An treractive syr e manner. C grams execu s and maneu 1 Active and veacekeeping ify the behav cy missions.	Jose Combs on-based Coi frainer (AVC ms Tactical 1 whetic battle: ATT reinfor tited by the A ver exercises Reserve con f missions, an rior of the co The combir	at Tactical I mbined Arm CATT), Eng Trainer (AD) field. CATI ces the succ dvanced Reas well as the appenent unit re able to sustimputer gent nation of tou numpredictal	ct D571 - Close Combat Tactical Trainer: The Combined Arms Tactical Trainer (CATT) is a family or simulation-based Combined Arms Training Strategy. The specific systems that comprise CATT inclust Tactical Trainer (AVCATT), Engineer Combined Arms Tactical Trainer (ENCATT), Fire Support mbined Arms Tactical Trainer (ADCATT). CATT enables units, from crew to the Battalion Task Force eractive synthetic battlefield. CATT's combination of manned simulators and staff officer workstations manner. CATT reinforces the successes and corrects the shortcomings of the Simulator Network rams executed by the Advanced Research Projects Agency (ARPA). By practicing skills in CATT, unit and maneuver exercises as well as train tasks deemed too hazardous to conduct in the field. Fielded in Active and Reserve component units to prepare for real world contingency missions. Units taking their acekeeping missions, are able to sustain essential warfighting skills when not at their home station. By the behavior of the computer generated opposing forces, CATT offers a virtually unlimited array of y missions. The combination of tough field and live fire training and realistic simulation training in CA inties they will face in an unpredictable world. The projects in this program element support research	Combined trategy. The ned Arms Tr enables to lon of mann rects the shuts Agency (when the shorts and too has for real world in gorces, C live fire train he projects.	Arms Tactic systepecific system of the system of simulator of the system	al Trainer (if etems that content to the Event to the Event the Event the Simult practicing sympsoid missions. I not at their a virtually use virtually use in the Event their event event their event even	CATT) is a fi omprise CAT T), Fire Supplattation Tasl officer works ator Network skills in CAT skills in CAT in Units takin r home static in limited arr tion training support rese	umily of T include oort t Force tations T, units ed in both g their n. By ty of in CATT arch

command and control systems to create a fully integrated real-time collective task training environment. This trainer will allow soldiers to practice, repetitively, techniques which, if performed on real equipment, would be too hazardous, time-consuming and expensive. These trainers enhance realism and allow soldiers and units to learn This project provides for engineering and manufacturing development (EMD) and pre-planned product improvements for the Close Combat Tactical Trainer simulators, emulators and semi-automated forces that replicate combat vehicles and weapon systems, combat service support systems, and (CCTT) which will enhance readiness of both active and reserve component forces. The program will develop a networked system of interactive computer driven efforts in the engineering and manufacturing development phases of the acquisition strategy and are therefore correctly placed in Budget Activity 5. ractical combat lessons on maneuver, command and control, and improved teamwork for increased survivability.

Acquisition Strategy. Competitive cost plus award fee contract for EMD phase. Competitive procurement against performance specifications.

FY 1995 Accomplishments:

- Supported data collection, analysis and dissemination; performed software independent verification and validation; developed life cycle estimates and Conducted and completed spiral development of hardware/software builds 3 through 7. Build 7 integration and testing is completed in FY 96. provided program office support 6292
 - Provided government program management, engineering, technical and contract support 3470 Total

917

Page 1 of 5 Pages

Exhibit R-2 (PE 0604780A)

RDT&E BUDGET ITE 1 JUSTIFICATION	IFICATION SHEET (R-2 Exhibit)	2 Exhibit) ○ATE March 1996
माणुहार ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604780A COM	PROJECT 0604780A Combined Arms Tactical Trainer (CATT) D571
FY 1996 Planned Program: • 47655 Complete so the build 7. Produce and deliver a fixed company team site (38 modules) a software/he and physical configuration audit; conduct Preproduction Qualification To fixed and months. Initial Operational Test and Evaluation (IOT&E) • 5327 Maintain support services to the program office 2310 Provide government program management, engineering, technical and contract support 1450 Revised Economic Assumption not available for execution and SBIR/STTR	y team site (38 moc production Qualifica f&E) nical and contract s nd SBIR/STTR	build 7. Produce and deliver a fixed company team site (38 modules) and 2 mobile platoon sets (11 modules); perform are physical configuration audit; conduct Preproduction Qualification Test (PPQT) for both fixed and mobile systems and prepare for initial Operational Test and Evaluation (IOT&E) out services to the program office nument program management, engineering, technical and contract support omic Assumption not available for execution and SBIR/STTR
FY 1997 Planned Program: 20750 Complete semi-automated forces improvements, conduct and support development testi documentation and audit trail, and prepare for pre-planned product improvements 3853 Maintain support services to the program office 2110 Provide government program management, engineering, technical and contract support Total 26713	l support developme oduct improvement inical and contract s	ogram: Complete semi-automated forces improvements, conduct and support development testing and IOT&E, correct deficiencies from testing, complete documentation and audit trail, and prepare for pre-planned product improvements Maintain support services to the program office Provide government program management, engineering, technical and contract support
B. Project Change Summar; Previous President's Budget (F) Appropriated Amount (FY 1995) Adjustment to EV 1005	FY 1996 59475	<u>FY 1997</u> 20669
1996)	58327 -585	6044
Current President's Budget Submit Current President's Budget Submit	57742	26713
Funding: FY 1997 - Increase of 6044 to fully fund the program with no impact to the Acquisition Program Baseline.	mpact to the Acquis	sition Program Baseline.
	:	
Project D571	Page 2 of 5 Pages	Exhibit R-2 (PE 0604/80A)
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RDT&F BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICAT	FION SH	EET (R.	-2 Exhib) Eig		DATE	March 1996	
								Maio		Ţ
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm)evelopm	ent	0 90	DE NUMBER AND TITLE O604780A Com	TLE ombined	Arms Ta	ctical T	DTITLE Combined Arms Tactical Trainer (CATT)	D571);
C. Other Program Funding Summary OPA3, Appropriation	FY 1995 31808	FY 1996 29699	<u>FY 1997</u> 78400	FY 1998 94173	FY 1999 104029	FY 2000 25487	FY 2001 14787	Ö	To Compl 0 38	Total Cost 385740
NA0170 SIMNE1/CC11 Military Construction, A Appropriation Operation and Maintenance, A Appropriation	0 0	10500	11900	12800	0	0 11037	0 10757	Ö	0 Cont'd	35200 Cont'd
Profile	FY 1995 2 3	4	FY 1 2	FY 1996 2 3	4	FY 1997 2 3	7 3 4			
Spiral Build 4 Spiral Build 4 Spiral Build 5 Spiral Build 6 Spiral Build 7 Software PDR Hardware CDR Software CDR FQT QS Decision PPQT Fixed System PPQT/IOT&E Fixed System PPQT/IOT&E Mobile System	* *	* * * *	× ××		×		××			
Project D571			Page 3 of 5 Pages	5 Pages			Exhib	Exhibit R-2 (PE 0604780A)	80A)	
			010							

RDT&E PROGRAM ELEMENT/P	MENT/PRO	JECT C	ROJECT COST BREAKDOWN (R-3)	EAKDC	WN (R-3	(a)	DATE March 1996	966
вирсет Асті∨іт∀ 5 - Engineering and Wa	velopment		PE NUMBER AND TITLE 0604780A Com	A Combi	ned Arms	Tactical T	רדראס) אוזורב Combined Arms Tactical Trainer (CATT)	PROJECT D571
		7001	1 1 1 1)	1000			
A. <u>Project Cost Breakdo yn</u> LORAL Development		27599 27599	7 1996 34617	. 1996 34617	FY 1997 17004			
LORAL Program Manage ment/System Engineering		12932	13	13038	3746			
Program Office/Technical St. pport		3470	7	2310	2110			
Government Agency Support		2367	m č	3590	2280			
Support Contracts Revised Economic Assessmer t not available for execution	ution	3923	7	2/3/ 161	13/3			
SBIR/STTR			-	1289				
Total		50293	57	57742	26713			
B. Budget Acquisition Watory and Planning Information	<u>mation</u>							
Performing Crganizat.ons								
Centract	,		,					
t Assamethad/Type Award or	Performing	Project	Total					
ing or Fund. 12	Activity	Office	Prior to	EV 1005	EV 1006	EV 1007	Budget to	
Activity Vehicle Date	EAC	EAC	FY 1995	F Y 1993	FY 1990	FY 1997	Complete	ie <u>Frogram</u>
evelopment Organizations		,	!		1	1		
Lorel FSC C-CPAF/ Nov 92	185310	185310	72245	40531	47655	20750		0 181181
Surney and Menogement Organizations								
NAWC-TSD MIPR Dec 92	11566	11566	3673	3473	2310	2110		0 11566
RCI TÆM Feb 93	3687	3687	3687	0	0	0		
CECOM M PR Nov 93	7893	7893	2056	1294	2490	2053		
MICOM MIPR Jan 94	1020	1020	1020	0	0	0		
Sherikon T&M Oct 94	4400	4400	0	1800	1800	800		
Miscellaneous Various	25167	25167	7473	3195	2037	1000	12295	76
Revised Landinic					161			161
Assessment								
SBIR/STTR					1289			1289
Test and Evaluation Organizations. None								
Government Jurnished Froperty: None								
		Doc	Dana A of & Dana			114	E-bibit P 3 (BE 0604780A)	(8)
Project D3/1		1 02	(e + 0) 2 1 age			LYIII	01 IV-0 (T L 000+1 0	
			920					





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST B	REAKDO	WN (R-3	□	DATE March	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604780A Com	AND TITLE	ined Arms	Tactical	D TITLE Combined Arms Tactical Trainer (CATT)	PROJECT D571	
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	Total Prior to FY 1995 72245 17909	FY 1995 40531 9762	FY 1996 47655 10087	EY 1997 20750 5963	Budget to Complete 12295	dget to Total mplete Program 181181 12295 56016	al 11 m 16
Total Project	90154	50293		26713		12295 237197	7.6
Project D571	Page 5 of 5 Pages	89		X	Exhibit R-3 (PE 0604780A)	80A)	
	921						

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA	TION S	teet (R	TIFICATION SHEET (R-2 Exhibit)	bit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	Jevelopm	ent	PE NI 0 6 0	PE NUMBER AND TITLE 0604801A AVIAT	пт <u>г</u> е v iation -	PE NUMBER AND TITLE 0604801A Aviation - Engineering Development	ring Dev	elopment		PROJECT DC45
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DC45 Aircrew Integrated Systems (ACIS)	4614	5005	5518	7596	6910	2420	2403		Continuing	Continuing Continuing

maximize aircrew performance in force modernized aircraft. Maximum advantage will be taken of simulation to reduce program technical risk through early user evaluation Program Element supports research efforts in the Engineering and Manufacturing Development Phase of the Acquisition Strategy and is correctly placed in Budget Activity threat systems; product improvements to existing helmets to improve performance and increase commonality; microclimatic cooling to improve aircrew performance and endurance in harsh environments and while encumbered with NBC protective equipment; development and adaptation of automotive airbag technology to the APACHE performance, aircrew comfort, aircrew and aircrew station interface, safety, and survivability. These programs include: advanced laser protection against emerging new Engineering Manugacturing Development This project provides engineering and manufacturing development for those systems and items of equipment which are and to reduce program design and test cost and schedules. Both joint and service independent efforts will be pursued under the scope of this project. The Project in this unique and necessary for the sustainment and enhanced survivability of Army aircrews and passengers on the future integrated battleffeld and during related training activities. EMD programs will focus on air vehicle integration, airworthiness qualification and user evaluation of multiple technologies to improve aircrew mission aircraft to improve crash protection and enhanced aircrew survivability; and follow-on air vehicle integration and test of Air Warrior program effort to enhance and A. Mission Description and Budget Item Justification: DC45 Aircrew Integrated Systems (ACIS) formally Aviation Life Support Equipment (ALSE)

Acquisition Strategy: Technical data packages are being procured for the Apache Cockpit Air Bag System (CABS) and Aircrew Microclimatic Cooling System B-kits. Bkits will be competed with the A-kit and Government furnished B-kit installation performed by the aircraft manufacturer. Pre-Planned Product Improvement of the helmet is awarded, as required, to the helmet developer, Gentex Corp. Performance specifications for the joint service advanced laser program are being developed and will be used for production competition. An Air Warrior competitive integration contract will be awarded after Milestone I/II approval.

FY 1995 Accomplishments:

- Initiated Cockpit Air Bag System (CABS) EMD for the AH-64 Apache
 - Continued Aircrew Integrated Helmet System (AIHS) P3I efforts 0001
- Continued Aircrew Microclimatic Conditioning System (AMCS) test and evaluation
- Initiated EMD for Advanced Laser Eye Protection (LEP) effort (Joint Service)

FY 1996 Planned Program:

- Continue CABS EMD for AH-64 Apache 1952
- Initiate program planning for the Joint Cockpit Air Bags System (JCABS) EMD Program (Joint Service) 559
 - Continue AIHS P3 efforts in EMD

Project DC45

Page 1 of 5 Pages

Exhibit R-2 (PE 0604801A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUSTI	FICATION	HS NC	ET (R-	2 Exhib	it)		DATE March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	evelopment		PE NUM 0604	PE NUMBER AND TITLE 0604801A Aviat	^{LE} iation - E	ngineer	ਮਾਸਦ Aviation - Engineering Development	lopment	PROJECT DC45
FY 1996 Planned Program: (continued) 1288 Continue EMD for Advanced Laser Eye Protection (LEP) effort (Joint Service) 75 Complete AMCS Operational Test/Milestone III IPR 15 Revised Economic Assumptions amount not available for execution 102 FY 96 SBIR/STTR reductions Total 5002	Laser Eye Prote Test/Milestone 1s amount not a	ction (LEP) III IPR vailable for	effort (Joi execution	nt Service)					
 FY 1997 Planned Program: 1800 Complete EMD qualification test and evaluation of CABS for the AH-64 Apache 2080 Conduct Milestone II IPR/Initiate EMD for JCABS (Joint Service) 638 Complete AIHS P³I testing 1000 Complete EMD for the Advanced LEP (Joint Service) Total 5518 	est and evaluati iate EMD for JC ced LEP (Joint	on of CABS ABS (Joint Service)	S for the AF Service)	I-64 Apache					
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995)		EX 1995 4650 4614	EY 1996 5142		F <u>Y 1997</u> 6899				
Adjustments to FT 1995 Appropriated Amount (FY 1996) Adjustments to FY 1996 Adjustments to Budget Year (FY 1997) since			ν	5052 -50	-1381				
FY 1996 President's Budget Current President's Budget Submit		4614	ν.	5002	5518				
Change Summary Explanation: Funding: FY 96 reflects revised economic assumptions (-50) FY 97 reflects revised economic assumptions (-181) and reduced requirement (-1200)	ons (-50) ons (-181) and 1	educed req	uirement (-	1200)					
C. Other Program Funding Summary	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	3	To Total Cont
RDTE, A BA 4 PE 0603801A Project DB45,	9626	9636	4104	2733	2654	0	0	O	Cont Cont
ACIS - AD Aircraft Procurement Army (APA) (ACIS) SSN AZ3110	9059	9334	6292	12782	10378	9361	9288	J	Cont Cont
Project DC45			Page 2 of 5 Pages	Pages			Exhibi	Exhibit R-2 (PE 0604801A)	1A)

RDT&E BUDGET ITEM JUST	T IT	EM JUST	IFICAT	S NOI	IFICATION SHEET (R-2 Exhibit)	R-2 E	xhibi			DATE Marc	March 1996
вирсет астіуіту 5 - Engineering and Manufacturing Development	ing D	evelopmer	ıt	PE 06	PE NUMBER AND TITLE 0604801A Avia	D ΤΙΤΙΕ Aviati	on - E	ngineer	ing De∿	oritle Aviation - Engineering Development	PROJECT DC45
D. Schedule Profile	_	FY 1995	4	_	FY 1996 2 3	4	_	FY 1997	7 4		
AH-64 Apache CABS EMD Contract Award Critical Design Review (CDR) Development Test (DT) Independent Assessment Report Functional Configuration Audit Aircrew Microclimate Conditioning System (AMCS) Technical Tests II Complete Operational Test Milestone III IPR Advanced Laser Eye Protection (LEP) Initiate EMD Phase Preliminary Design Review (PDR) Continue PDR Initiate Design Verification Testing Complete EMD phase Joint Cockpit Air Bag System (JCABS) Initiate EMD program planning Conduct Milestone II IPR Initiate EMD phase Conduct Milestone II IPR Conduct Milestone II IPR Initiate EMD phase Critical Design Review (CDR) AIHS PJ Continue EMD efforts Technical Testing Independent Assessment Report	*	· *	* *	. ×		· ×	× × ×		· · · · · · · · · · · · · · · · · · ·		
Project DC45				Page 3	Page 3 of 5 Pages				Exhi	Exhibit R-2 (PE 0604801A)	4801A)





RDT&E PROGRAM ELEMENT	SAM ELE	MEN	T/PRO.	JECT C	/PROJECT COST BREAKDOWN (R-3)	AKDOW	VN (R-3)	Ğ	DATE March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	acturing D	evelor	ment	L.	PE NUMBER AND TITLE 0604801A AVIA	Στιτιε Aviation	- Engine) गार∟E Aviation - Engineering Development	lopment	PROJECT DC45
A. Project Cost Breakdown Product Development Organizations Support and Management Organizations Test and Evaluation Organizations Revised Economic Assumptions/SBIR/STTR Total	ns /STTR			EY 1995 2553 1493 568 4614	EY 1996 2536 2109 240 117 5002		EY 1997 3105 1848 565 5518			
B. Budget Acquisition History and Planning Information:	Planning Info	rmation	••							
Performing Organizations										
Contract Contractor or Method/Type Government Performing or Funding Activity Vehicle	ct [ype Award or ing Obligation] e Date		Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	to Total
Development Organiz Simula		I	Ī							
Phoenix, AZ Simula	Mar 1997	266	5400	5400	0			1400	4000	5400
Phoenix, AZ SS-CPFF	May 1994	994	3612	3612	550	1000	1312	750	0	3612
Kansas City, Mo. SS-CPFF	Mar 1994	994	7651	7651	7151	200			0	7651
Advanced LEF NAWC Warminster, PA C-CPFF Miscellaneous SS/C-CPFF	July 1995 FF FY 95-97	995 -97	2981	2981	0	425	891	615	1050	2981
Ianagement (' <u>s</u>			1904	3 1	910	0 0		
is Organizations id Economic Assumpti		2			4901	1493	117	1848	Cont	Cont
STTR Test and Evaluation Organizations Government Agencies MIPR					2421	568	240	565	Cont	Cont
Project DC45				Page .	Page 4 of 5 Pages			Exhibit F	Exhibit R-3 (PE 0604801A)	

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ENT/PROJE(CT CO	ST BRE	AKDOW	N (R-3)	DATE March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	elopment	9 O	PE NUMBER AND TITLE 0604801A Avia	D тпте Aviation -	PE NUMBER AND TITLE 0604801A Aviation - Engineering Development	evelopment	PROJECT DC45
Government Furnished Property Not Applicable							
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project DC45	Total Prior to FY 1995 FX 16808 25 4981 14 2421 5	EY 1995 E 2553 1493 568 4614	EY 1996 2536 2226 240 5002	EY 1997 3105 1848 565 5518	Budget to Complete Cont Cont Cont	Total Program Cont Cont Cont Cont	
Project DC45		Page 5	Page 5 of 5 Pages		Ш	Exhibit R-3 (PE 0604801A)	1A)
		J	926				





	RDT&E BUDGET ITEM JU	EM JUS	TIFICA	STIFICATION SHEET (R-2 Exhibit)	HEET (F	R-2 Exhi	bit)		DATE	March 1006	9
80DG 5 - 1	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ļ te	PE NE	PE NUMBER AND TITLE	TITLE					
				De	Development	veapous nt		- suom	Development	Đ L	
	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
	Total Program Element (PE) Cost	14006	17535	20468	10417	17346	9751	1895		Continuing	Continuing
D134	Objective Individual Combat Weapon Engineering Development	0	0	0	0	0	1912	1895		Continuing	Continuing
D284	D284 Multipurpose Individual Munition	0	11973	14108	9353	17346	7839	0		0	60619
D290	D290 Bunker Defeat Munition	31	0	0	0	0	0	0		0	6229
D531	D531 105mm Howitzer Ammunition Improvement	3044	3520	3076	0	0	0	0		0	20094
D613	Mortar Systems	10931	1556	0	0	0	0	0		0	21539
D712	Non-Lethal Programs	0	0	3284	1064	0	0	0		0	4348
DAS1	DAS1 Small Arms Improvement	0	486	0	0	0	0	0		0	486

mortar. The non-lethal program provides for force response options for non-lethal immobilization of personnel and materiel through development of non-lethal capabilities logistics. The Multi-purpose Individual Munition (MPIM) provides the infantry with a fire-and-forget weapon capable of defeating enemy forces in buildings, bunkers and Grenade Machine Gun. Projects within this Program Element support research efforts in the engineering and manufacturing development phases of the acquisition strategy standoff position several years before the MPIM is ready. The howitzer ammunition effort supports development of ammunition for the M119A1 Howitzer. The mortar for multiple weapon systems/platforms. The Small arms improvement program provides funds to develop existing and emerging technology to enhance lethality, target Mission Description and Budget Item Justification: Provides for engineering development of weapons and munitions systems. The Objective Individual Combat systems effort supports qualification of an Improved Mortar Ballistic Computer (IMBC) and type classification of training and illumination cartridges for the 120mm acquisition, fire control, training effectiveness and /or reliability for small arms weapon systems. This project develops a universal mounting bracket for the MK19-3 lightly armored vehicles. The Bunker Defeat Munition (BDM) is an interim solution to provide the individual soldier the ability to destroy field fortifications from a Weapon (OICW) will provide significant increase in overall combat effectiveness such as hit probability, range, lethality, man/machine interface, sustainability and and are therefore correctly placed in budget activity 5.

Page 1 of 24 Pages

Exhibit R-2 (PE 0604802A)

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA	FION S	HEET (R	FIFICATION SHEET (R-2 Exhibit)	bit)		M	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Jevelopm	ent	PE NI 060 Dev	PE NUMBER AND TITLE 0604802A Weal Development	ппсе Veapons nt	ENUMBER AND TITLE 3604802A Weapons and Munitions - Engineering Development	tions - E	Engineeri		РRОЈЕСТ D284
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D284 Multipurpose Individual Munition	0	11973	14108	9353	17346	7839	0		0	60619

lethality over the AT4 and will be multiple target capable. System design will allow for growth, service life extension and technology insertion to support the U.S. Army mission of crisis response to regionally based threats. The Army and U. S. Marine Corps have initiated a memorandum of agreement for horizontal technology integration purpose weapon. Provides the infantry with a fire and forget weapon capable of defeating enemy forces in buildings, bunkers, and lightly armored vehicles. The Multiple Purpose Individual Munition/Short Range Anti-tank weapon (MPIM/SRAW) is capable of being fired quickly from its carrying configuration and can be safely fired from an enclosure for the close battle. It will replace the current AT4 system which was designed to defeat only light armor. This system will have tremendously increased A. Mission Description and Budget Item Justification: Provides for an Engineering Manufacturing Development (EMD) of a lightweight, shoulder fired, multiple effort utilizing the USMC SRAW flight module/launcher as the carrier for the MPIM warhead

Acquisition Strategy: The MPIM/SRAW is a 51-month EMD program which will leverage off the USMC 42-month SRAW EMD contract awarded in June 1994 and the initial production facilitization (IPF) and long lead items (LLI) procurement begins in FY 1999 to facilitate maintaining an FY 01 First Unit Equipped (FUE). Low rate 18-month Army technology demonstration MPIM/SRAW contract awarded in Jan 1995. The MPIM/SRAW EMD contract will be awarded in June 1996. Funding for initial production (LRIP) will be awarded in FY 00. Full rate production will begin in FY 01.

FY 1995 Accomplishments: No FY 1995 program

FY 1996 Planned Program:

- Proceed with MPIM/SRAW EMD: develop program milestone II documentation; prepare request for proposal; award EMD contract
 - Conduct system level trade studies 319
- Finalize system level specifications for preliminary design review (PDR) 2426
- Procure flight module/launcher hardware for pre-production testing (PPT) 8299
 - Procure warhead components for PPT 291
- Funds will be used for SBIR/STTR programs IAW the Small Business Innovation Research Program Reauthorization Act of 1992 268
 - Revised economic assumption- not available for execution

Project D284

Page 2 of 24 Pages

Exhibit R-2 (PE 0604802A)



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	IFICATIO	N SHE	ET (R	2 Exhib	jî (DATE March 1996	1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	nt	PE NUME 06048 Devel	PE NUMBER AND TITLE 0604802A Weal Development	⊤LE eapons a t	and Mun	itions - I	PE NUMBER AND TITLE 0604802A Weapons and Munitions - Engineering Development	PROJECT D284	_
FY 1997 Planned Program:	on qualification	testing (PI	QT)						
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995	EY 1995 0 0 0	EY 1996 12309	96 8	FX 1997 14607					
Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget	c	12093 -120 11073	7 50 3 3	-499					
Current restructions and support Submits Change Summary Explanation: Funding -FY 1996: This program has been reduced for revised economic assumptions. FY 1997: This program has been reduced for revised economic assumptions.	ced for revised	economic economic	7.3 assumptio assumption	14100 ns. 15.					
C. Other Program Funding Summary FY 1995 PE 0603313A, Project D387 Missile Procurement, Army, SSN C09100	FY 1996 FY 4450	FY 1997 E	FY 1998 0 0	FY 1999 0 12205	EY 2000 0 39171	EY 2001 0 46432	To Compl 0	` =	Total Cost 10721 Cont
Project D284	Pas	Page 3 of 24 Pages	ages			Exhib	Exhibit R-2 (PE 0604802A)	2A)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	IN SHEET (R-2 Exhibit) DATE March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Munitions - Enginee	PROJECT D284
Y 1995	FY 1997	
Award EMD contract for MPIM/SRAW Conduct early user demonstration Conduct preliminary design review Begin pre-production test	2	
Project D284	Page 4 of 24 Pages (PE 0604802A)	()
	000	





RDT&E PROGRAM ELEMENT/PRO	/PROJECT COST BREAKDOWN (R-3)	ST BRE	AKDO	WN (R-		DATE March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE 1	PE NUMBER AND TITLE 0604802A Weal Development	ртпе Weapo	ns and M	unitions -	PE NUMBER AND TITLE 0604802A Weapons and Munitions - Engineering Development	PROJECT D284
A. Project Cost Breakdown Primary hardware development Program management support Developmental Test and Evaluation Total	FY 1995 0 0 0 0	FY 1996 9714 2209 50 11973		EY 1997 10511 2680 917 14108			
B. Budget Acquisition History and Planning Information							
Performing Organizations Contractor or Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity Vehicle Date EAC Product Development Organizations	Project 7 Office Pri	Total Prior to EY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	to Total te <u>Program</u>
LORAL SS/CPIF 3Q96 TBD	TBD	0	0	9714	10511	22358	58 42583
Aeronutronic Support and Management Organizations PM CCAWS, RSA PO MICOM, RSA, AL PO MISC. PO			000	1393 744 72	1256 1114 310	3194 2902 398)4 5843)2 4760)8 780
Test and Evaluation Organizations TECOM, APG PO			0	20	917	2686	86 6653
Government Furnished Property: None							
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project		0000	0000	9714 2209 50 11973	10511 2680 917 14108	22358 6494 5686 34538	\$8 42583 94 11383 \$6 6653 \$8 60619
Project D284	Page 5 of	Page 5 of 24 Pages			Exh	Exhibit R-3 (PE 0604802A)	A)

RDT&E BUDGET ITEM JUSTI	EM JUS	TIFICA	TION SI	HEET (R	IFICATION SHEET (R-2 Exhibit)	bit)		DATE Ma	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developmen	Developm	ent	PE NI 060 Dev	PE NUMBER AND TITLE 0604802A Wear Development	ппе Veapons nt	and Mun	itions - E	PENUMBER AND TITLE 0604802A Weapons and Munitions - Engineering Development		РРОЈЕСТ D290
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	0	Cost to Complete	Total Cost
D290 Bunker Defeat Munition	31	0	0	0	0	0	0		0	6229

A. Mission Description and Budget Item Justification: This project provides for the development and type classification of a throwaway munition for neutralizing earth and timber field fortifications, and breaching masonry and reinforced concrete structures.

Acquisition Strategy: BDM procurement will be achieved through a sole source fixed price contract with the developer.

FY 1995 Accomplishments:

• 31 Conducted final technical test/operational program Total 31

Total

FY 1996 Planned Program: No FY 1996 program

FY 1997 Planned Program: No FY 1997 program

FY 1997	>					0		0
FY 1996	>			0	0			0
EY 1995	7007	2552	-2521					31
B. Project Change Summary	Previous President's Budget (FT 1993)	Appropriated Amount (FY 1995)	Adjustment to FY 1995	Appropriated Amount (FY 1996)	Adjustment to FY 1996	Adjustments to Budget Year (FY 1997) since	FY 1996 President's Budget	Current President's Budget Submit

Change Summary Explanation- Funding: FY 1995 below threshold reprogramming (2521)

Project D290

Page 6 of 24 Pages

Exhibit R-2 (PE 0604802A)

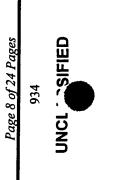




RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	M JUST	IFICAT	IS NOI	IEET (R	-2 Exhit	oit)		DATE Marcl	March 1996	
вирсет Астіvіту 5 - Engineering and Manufacturing Development	velopmeı	ıt	PE NU 060 Dev	PE NUMBER AND TITLE 0604802A Weal Development	пте /eapons t	and Mun	itions - I	PE NUMBER AND TITLE 0604802A Weapons and Munitions - Engineering Development	PROJECT D290	лест 30
C. Other Program Funding Summary:	FV 1005	FV 1006	FV 1007	FV 1008	FV 1000	FV 2000	FV 2001		To	Total
Procurement Ammunition, Army: Bunker Defeating Munition, SSN E88401		14581	0	0	0	0	0	K	0	21627
D. Schedule Profile	FY 1995	-	т	FY 1996	1	FY 1997	70			
Complete validation test program Materiel release	n 4	r	. ×	· ×		1				
Project D290			Page 7 of 24 Pages	24 Pages			Exhit	Exhibit R-2 (PE 0604802A)	302A)	
			022							

933

RDT&E PROGRAM ELEMENT/P	MENT/PRO	SJECT (SOST BE	REAKDO	ROJECT COST BREAKDOWN (R-3)	<u>@</u>	DATE March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	velopment		PE NUMBER AND TITLE 0604802A Weal Development	AND TITLE A Weap ment	ons and M	lunitions -	ס דודנב Weapons and Munitions - Engineering ent	PROJECT D290
 A. Project Cost Breakdown Test and Evaluation Program management and engineering Total 		FY 1995 31 0 31	Æ	EY 1996 0 0	EY 1997 0 0 0			
B. Budget Acquisition History and Planning Information	nation							
Performing Organizations Contractor or Contract Government Method/Type Award or Performing or Funding Obligation Activity Vehicle Date Product Development Organizations	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to EY 1995	EY 1995	FY 1996	FY 1997	Budget to Complete	Total Program
Talley Defense Sys FP Dec 94	3600	3600	3600	0	0	0	0	3600
Support and management Organizations ARDEC- Picatinny Test and Evaluation Organizations	1807	1807	1807	0	0	0	0	1807
TECOM-APG; YPG; RTTC	822	822	791	31	0	0	0	822
Government Furnished Property: None								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project			3600 1807 791 6198	0 0 31 31	0000	0000	0 0 0	3600 1807 822 6229
Project D290		Раде	Page 8 of 24 Pages	<i>જ</i>		Exh	Exhibit R-3 (PE 0604802A)	2





	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICAT	IS NOL	HEET (R	-2 Exhi	bit)		DATE	March 1996	96
BUDGET ACTIVITY 5 - Engineering	вирдет астіліту 5 - Engineering and Manufacturing Development	evelopmo	ent	PE NU 060 Dev	PE NUMBER AND TITLE 0604802A Weal Development	пте Veapons it	and Mun	itions - I	PE NUMBER AND TITLE 0604802A Weapons and Munitions - Engineering Development		PROJECT D531
0	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D531 105mm Howitze	105mm Howitzer Ammunition Improvement	3044	3520	3076	0	0	0	0		0	20094
A. Mission Descript and development of s	A. Mission Description and Budget Item Justification: This project provides for the fielding of an extended range 105mm artillery projectile for the M119A1 Howitzer and development of self-destruct fuzing technology for munitions.	tion: This pr for munitions	roject provid	les for the fi	elding of an	extended ra	nge 105mm	artillery pro	jectile for the	e M119A1	Howitzer
Acquisition Strategy will be sole sourced to contracts.	Acquisition Strategy: Initial low rate production of cartridge, artillery, 105mm Dual Purpose Improved Conventional Munition (DPICM), XM915, begins in FY 1997 and will be sole sourced to the developer under fixed price contracts. Full rate production begins in FY 1998 and will be achieved with competitively solicited fixed price contracts.	cartridge, art ce contracts.	illery, 105m Full rate pro	ım Dual Pur duction beg	pose Improv jins in FY 19	ed Convent	ional Muniti be achieved	on (DPICM with compe	tillery, 105mm Dual Purpose Improved Conventional Munition (DPICM), XM915, begins in FY 199 Full rate production begins in FY 1998 and will be achieved with competitively solicited fixed price	egins in FY ited fixed p	1997 and rice
FY 1995 Accomplishments:	hments:										
• 145	Increment to contract for containers and additional grenade fuzes	ainers and ad	ditional grer	ade fuzes							
243	New machining operation added to grenade body process	led to grenade	body proce	SS	- T						
101	Frocurement of projective bodies, expuision system nationale, and grenade adapters. Self destruct fuze stacked grenade test and accelerated aging tests	les, expuision	accelerated	aware, and g aging tests	greniaue auaj	Siels					
• 50	XM80 performance testing))							
108	KDI self destruct fuze contract Load, assembly and nack of 105mm DPICM hardware and self destruct fuzes at 1.SAAP	t O5mm DPICI	d hardware	and self des	truct firzes a	1 SAAP					
166	EMD testing at Yuma Proving Ground (YPG)	Ground (YP	(£)		7 31			E -6	•		
Total 3044	Engineering evaluation of periorniance, expuision system investigation, sen destruct fuze investigation, and follow up on testing	ionnance, ex	pulsion syste	am mvesuga	ulon, sem de	struct fuze II	ivestigation,	and rollow	up on testing	h n	
FY 1996 Planned Program:	rogram:										
• 716	Complete EMD testing at YPG	ď									
1150	KDI self destruct fuze contract	بب									
2/0	projectile metal parts contract Friging evaluation of nerformance	formance									
87	Funds will be used for SBIR/STTR programs IAW the Small Business Innovation Research Program Reauthorization Act of 1992	TTR program	ns IAW the	Small Busin	iess Innovati	on Research	Program Re	eauthorizatio	n Act of 19	92	
	Revised economic assumption- not available for execution	- not availab	e for execut	ion)				
Total 3520											
Project D531				Page 9 of 24 Pages	4 Pages			Exhib	Exhibit R-2 (PE 0604802A)	604802A)	

RDT&E BUDGET ITEM JUSTIFICATIO	FICATION SHEET (R-2 Exhibit)	-2 Exhib	oit)	DATE March 1996	1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604802A Weal Development	ाग∟E Veapons a it	and Munitions	PE NUMBER AND TITLE 0604802A Weapons and Munitions - Engineering Development	PROJECT D531	то. —
FY 1997 Planned Program: Type Classification actions for the XM915 only: 800 Load, assembly and pack (LAP) of cartridge for Development 1100 Conduct DT&E tests 792 Test and evaluation management 384 Complete Engineering Manufacture and Development (EMD)	M915 only: for Development test and evaluation elopment (EMD)	uc				
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995 -18	EX 1996 3619	FY 1997 0				
Appropriated Amount (FY 1996) Adjustments to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget	3556 -36	3076				
Current President's Budget Submit	3520	3076				
Change Summary Explanation: Funding: FY 1997 program funding to complete testing and to type classify the item.	sify the item.					
C. Other Program Funding Summary	FV 1007 FV 1008	EV 1000	00 VE 0000 VE		To	Total
0		47533	47162 14247		Compi 14	142267
D. Schedule Profile FY 1995	FY 1996	4	FY 1997	V		
	1	•	1	•		
Project D531	Page 10 of 24 Pages		Û	Exhibit R-2 (PE 0604802A))2A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	T ITE	N JUST	FICA	Į Į	SHEET	(R-2	Exhib	E		DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ng Dev	/elopme	 		PE NUMBER AND TITLE 0604802A Weal Development	ND TITLE N Weal nent	pons a	Ind Mc	ınitior	PE NUMBER AND TITLE 0604802A Weapons and Munitions - Engineering Development	PROJECT D531	5
D. Schedule Profile		FY 1995]	FY 1996		,	FY 1997	766	,		
XM80 performance testing Complete EMD testing at YPG KDI self destruct fuze contract Projectile metal parts contract Eng eval of perf; follow up on all testing Type Classification	-	^ * ×	* *	-	, ×	4	- ×	× ×	~ ×	4		
*Completed milestone												
Project D531				Page	Page 11 of 24 Pages	Ŋ				Exhibit R-2 (PE 0604802A)	04802A)	
					937							

RDT	&E PROG	RAM ELE	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	JECT C	SOST BF	REAKDO	WN (R-	3)	DATE March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	and Manuf	acturing D	evelopment		PE NUMBER AND TITLE 0604802A Weal Development	AND TITLE A Weapo	ons and M	unitions - I	PENUMBER AND TITLE 0604802A Weapons and Munitions - Engineering Development	Р R ОЈЕСТ D531
A. Project Cost Breakdown Program engineering and management support Contract engineering support Test and evaluation support Total	akdown and managemer support upport	ıt support		FY 1995 1520 1293 231 3044	EY 1996 1384 1420 716 3520	1996 1384 1420 716 3520	FY 1997 792 0 2284 3076			
B. Budget Acquisition History and Planning Information	on History and	Planning Info	rmation							
Performing Organizations Contractor or Contra Government Metho Performing or Fun	cations Contract Method/Type or Funding	Award or Obligation	Performing Activity	Project Office	Total Prior to				Budget to	Total
Activity	Vehicle	Date	EAC	EAC	FY 1995	FY 1995	FY 1996	FY 1997	Complete	Pro
TACOM:ARDEC ALLOT	ALLOT	OCT 92	5527	5527	3044	1785	1384	792		7005
Chamberlain:	OPEN/CPIF	SEP 93	1100	1100	1200	44	270	0		1514
SAAP, Scranton Amrom Corp.	OPEN/CPIF	SEP 93	290	290	615	243	0	0		858
KDI	OPEN/CPIF	SEP 93	3914	3914	3914	108	1150	0		5172
Olin Norris Industries	OPEN/FP OPEN/CPIF	SEP 93 SEP 93	371	371	371	00	0	00		371
Dayron Corp.	OPEN/CPIF	SEP 94	238	238	156	82	0	0		238
LSAAP	FP/ALLOT	JUL 94	1792	1792	372	616	0	800		1788
Support and Management Organizations: None Test and Evaluation Organizations TECOM-YPG, AZ	gement Organiz 1 Organizations	zations: None	3193	3193	497	166	716	1484		2863
Government Furnished Property: None	shed Property:	None								
Project D531				Page	Page 12 of 24 Pages	ses		Exhi	Exhibit R-3 (PE 0604802A)	a





RDT&E PROGRAM ELEMENT/PROJECT	PROJECT COST BREAKDOWN (R-3)	AKDO	WN (R-3		DATE March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604802A Weal Development	iD тiтte Weapor ent	ns and M	unitions -	PE NUMBER AND TITLE 0604802A Weapons and Munitions - Engineering Development	PROJECT D531
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	Total Prior to FY 1995 9789 0 497 10286	EY 1995 2878 0 166 3044	EX 1996 2804 0 716 3520	FY 1997 1592 0 1484 3076	Budget to Complete	t to Total ete Program 17063 0 2863 19926
Project D531	Page 13 of 24 Pages			Exh	Exhibit R-3 (PE 0604802A)	2A)
	939					

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA.	TION S	FIFICATION SHEET (R-2 Exhibit)	-2 Exhi	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PE NI 060 De	PE NUMBER AND TITLE 0604802A Weak Development	пте Veapons nt	and Mun	itions -	PENUMBER AND TITLE 0604802A Weapons and Munitions - Engineering Development		РRОЈЕСТ D613
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D613 Mortar Systems	10931	1556	0	0	0	0			0	21539

ammunition. This project provides for the qualification of a new Mortar Ballistic Computer to replace and insure continued maintainability of the nearly obsolescent current A. Mission Description and Budget Item Justification: This program provides funds to develop existing and emerging technology to enhance the effectiveness, lethality, training alternative at a lower cost than training with high explosive service ammunition. It also provides for the qualification of a mortar illumination round (conventional versatility of use, mobility, and accuracy of mortar systems. Current mortar systems include conventional ammunition with a variety of fuzing and applications, weapons M23 version. This project also provides for the qualification of a full range training cartridge for the 120mm Battalion Mortar System. This cartridge provides a realistic that range from man-portable 60mm to vehicle-mounted 120mm mortars, and related equipment such as fire control, mortar ballistic computer, training devices, and and infrared)

competitive. The illumination round enters production in FY 97. The Improved Mortar Ballistic Computer (IMBC) will begin production in FY 96 through PM common Acquisition Strategy: The full range training cartridge enters production with the developer as option to the development contract in FY 96. Follow on buys are hardware with government integration of software.

FY 1995 Accomplishments:

- 603 Completed development of IMBC software
- 153 Conducted pre-production qualification testing (PPQT)
 - 673 Conducted operational testing of IMBC
 - 1502 Type classified the IMBC
- 300 Type classified the Full Range Training Round (FRTC)
 - 1700 Conducted PPQT for the FRTC
- Completed development of 120mm illumination (conventional and infrared) rounds 4200
 - 1800 Conducted engineering and PPQT
- otal 1093

Exhibit R-2 (PE 0604802A)



Page 14 of 24 Pages

Project D613



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	JUSTIF	ICATION	HS NC	EET (R	-2 Exhi	oit)		DATE March 1996	1996	
вирсет Астіміту 5 - Engineering and Manufacturing Development	opment		PE NUN 0604 Deve	PE NUMBER AND TITLE 0604802A Weal Development	ात्तर Peapons t	and Mun	itions -	D TITLE Weapons and Munitions - Engineering ent	PROJECT D613	3 3
 FY 1996 Planned Program: 189 Increment container process optimization 190 Propellant process optimization 1139 Fin optimization/load, assembly and pack optimization 34 Funds will be used for SBIR/STTR programs IAW the Small Business Innovation Research Program Reauthorization Act of 1992 4 Revised economic assumption- not available for execution Total 1556 FY 1997 Planned Program: No FY 1997 program 	zation I pack optin programs L available fo	nization AW the Sn r execution	nall Busine	ss Innovati	on Research	Program Re	eauthorizat	on Act of 1992		
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustments to FY 1995 Adjustment to FY 1996	ы	EX 1995 11165 10931 0	EY 1996 0 1572 1572	1996 0 0 1572 -16	FY 1997 0					
Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current President's Budget Submit		10931		1556	0 0					
Change Summary Explanation: Funding: FY 1996: This program has been reduced for revised economic assumptions.	ed for revis	ed econor	nic assump	tions.						
ımary	EY 1995 EY	FY 1996 E	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	To Compl	To Inpl	Total Cost
ion, Army:		65812 18244	30106 49539	24198 35563	23474	18717 41272	0 43940			215674 220219
	29789 0 0	0 0 0 0	0 19360 0	0 11484 7656	0 0 57040	0 0 47162	0 0 46812		_ (1	157017 37109 237032
Other Frocurement, Army. 83200 (1MBC) Project D613		· I	0830 047 Page 15 of 24 Pages	04/1 4 Pages		0	Exhit	0 0 Exhibit R-2 (PE 0604802A)		45155

RDT&E BUDGET ITEM JUST	TEM JUSTIFIC	ATION	IFICATION SHEET (R-2 Exhibit)	(R-2 E)	chibit		DATE	re March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Development		PENUMBER AND TITLE 0604802A Weapons and Munitions - Engineering Development	D रास्त्र Weapo ent	ns an	d Munitio	ns - Eng	jineering	РRОЈЕСТ D613
D. Schedule Profile	FY 1995	-	FY 1996	-	_	FY 1997	4		
Development of IMBC software Conduct DT/OT of the IMBC Type classify the IMBC Develop and test 120mm FRTC Type classify XM930 Illumination round Type classify XM931 FRTC *Completed milestone		- * -	· ×	r ×	-		•		
		Q	A C Jo XI				п 		Ś
Project D613		rage	rage 10 0j 24 rages				באווטוו ר	1-2 (re 00040	(Y 2)





RD	T&E PROG	SRAM EL	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	JECT C	SOST BI	REAKDO	JWN (R-	3)	DATE March 1006	1006
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ıg and Manu	facturing [Jevelopment		PE NUMBER AND TITLE 0604802A Weal Development	AND TITLE A Weap ment	ons and N	Aunitions -	PENUMBER AND TITLE 0604802A Weapons and Munitions - Engineering Development	PROJECT D613
A. Project Cost Breakdown Product development Management /engineering support Test and evaluation Total	reakdown nt leering support			FY 1995 4803 3202 2926 10931	ম	E <u>Y 1996</u> 1556 0 0 1556	EY 1997 0 0 0 0			
B. Budget Acquisition History and Planning Information	tion History and	l Planning Inf	ormation							
Performing Organizations Contractor or	i zations Contract									
Government Performing	Method/Type or Funding	Award or Obligation	Performing Activity	Project Office	Total Prior to				d.	
Activity Vehicle Product Development Organizations	Vehicle ent Organization	Date ns	EAC		FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	to I otal
Pocal industries,	SS/CPIF	2095	4944	4944	3344	0	1556	0		4900
Miltope: Hope	C/FP	1095	310	310	310	0	0	0		310
ARDEC	WR	2Q94	1124	1124	1124	0	0	0		1124
MTA: Huntsville, AL	SS/FP	3Q94	351	351	351	0	0	0		351
Mitre: Tinton Falls. NJ	SS/FP	3Q94	78	78	78	0	0	0		78
ARDEC: M930	WR	3Q95	1252	1252	0	1252	0	0		1252
Pine Bluff Arsenal	WR	3095	276	216	0	276	0	0		576
Crane Army Depot	WR C/EB	3Q95 3Q05	868	898	0	898	0	0		898
Martin Marietta	C/FP	3095	202	202	>	707	-	o c		202
Ferrulmatic: NJ	C/FP	3095	260	260	0	290	0	0		560
ARDEC: (IMBC)	WR	1095	1908	1908	0	1908	0	0		1908
Project D613				Page.	Page 17 of 24 Pages	es		Exhil	Exhibit R-3 (PE 0604802A)	۹)
					4,					

943

TUG	POTRE PROGRAM EI EMENT/P	RAM EL	EMENT/PR	O.IECT.	COST BI	SEAKING SE	ROJECT COST BREAKDOWN (R-3)	3	DATE March 1006	1006	
						S ITIT CINA			Marci	1330 PD IECT	T C I
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	and Manuf	facturing [Jevelopment		0604802A Weal Development	AND THEE	ons and M	unitions -	Development	D613	ာ က
Contractor or	Contract										
Government	Method/Type	Award or	Performing	Project	Total						
Performing	or Funding	Obligation	Activity	Office	Prior to				Budget to		Total
Activity	Vehicle	Date	EAC	EAC	FY 1995	FY 1995	FY 1996	FY 1997	Complete		Program
Support and Management Organizations	ement Organiz	ations									
PM Mortars	Allot	1094	804	804	433	371	0	0			804
ARDEC	WR	1094	3100	3100	2716	384	0	0			3100
CECOM	WR	1094	9/	92	92	0	0	0			9/
Camber Corp.,NJ	SS/FP	3Q94	413	413	413	0	0	0			413
SET: TN	SS/SP	3Q94	120	120	120	0	0	0			120
PM Mtrs: IMBC	Allot	1095	119	119	0	119	0	0			119
ARDEC	WR	1095	63	63	0	63	0	0			63
ACALA	WR	1095	135	135	0	135	0	0			135
ARDEC: M931	WR	3095	3041	3041	0	3041	0	0			3041
Test and Evaluation Organizations	Organizations	20									1
TECOM, WSMR,	WR	2Q95	130	130	15	115	0	0			130
MN						•	((•
CSTA: APG	WR	2095	140	140	72	8 9	0	0			140
WSMR: IMBC	WR	2095	153	153	0	153	0	0			153
TEXCOM Fld Spt	WR	4Q95	∞	∞	0	∞	0	0			∞
Acty, Ft. Hood											
CSTA: APG	WR	4095	160	160	0	760	0	0			160
(M931)								ı			i
AMSAA: APG	WR	3Q95	75	75	0	75	0	0			S.
WES: Vicksburg,	WR	4Q95	40	40	0	40	0	0			40
MS											
Government Furnished Property: None	shed Property:	None									
G. Land Des desce Des	•				5207	4490	1556	c			12362
Subtotal Product Development	velopinelit				2750	4113		· c			7871
Subtotal Support and Management	1 Management				07/0	4113					1306
Subtotal Test and Evaluation	/aluation				/0	1219) \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	> 0			21630
Total Project					9052	10931	1556	Ð			66612
Project D613				Pa	Page 18 of 24 Pages	ıges		Exh	Exhibit R-3 (PE 0604802A)	302A)	
					,,,						





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION SH	HEET (R	-2 Exhi	bit)		DATE N	March 1996	9
вирсет астіміту 5 - Engineering and Manufacturing Development	Jevelopm	ent	PE NE 060 Dev	PE NUMBER AND TITLE 0604802A Weal Development	ritle Veapons it	and Mun	itions - I	PE NUMBER AND TITLE 0604802A Weapons and Munitions - Engineering Development		PROJECT D712
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D712 Non-Lethal Programs	0	0	3284	1064	0	0	0		0	4348
A. Mission Description and Budget Item Justification: This program will demonstrate the application of non-lethal technologies, devices and munitions that are explicitly designed and employed to incapacitate personnel and/or materiel while minimizing fatalities and undesired damage to property and the environment. Non-letha devices have the potential to provide the foundation for regional and peacekeeping operations to be successful, and may allow military forces to respond to such conflicts through the use of an established Graduated Response Matrix. The application of non-lethal capabilities that minimizes collateral damage while providing for safe employment and mission accomplishment will enhance operational effectiveness.	ation: This resonnel and/ of for regional ise Matrix. I	s program will demonstrate the application of non-lethal technologies, devices and munitions that are Vor materiel while minimizing fatalities and undesired damage to property and the environment. Non-lethal and peacekeeping operations to be successful, and may allow military forces to respond to such conflicts. The application of non-lethal capabilities that minimizes collateral damage while providing for safe onal effectiveness.	Il demonstra /hile minimi :eping opera on of non-let	te the applic zing fatalitie tions to be si thal capabilii	ation of non s and undes uccessful, ar ties that min	lethal techn ired damage id may allow imizes collat	ologies, dev to property military fo	ices and mu and the envi rces to respo while provi	nitions that ronment. N nd to such c iding for safi	are on-lethal onflicts
Acquisition Strategy: Upon completion of user demonstration and feedback, selected non-lethal devices/munitions will be integrated into the appropriate acquisition phase depending on their design maturity and ability to fulfill the user's needs.	monstration Ifill the user'	n and feedbach r's needs.	k, selected n	on-lethal dev	/ices/muniti	ons will be ii	ntegrated int	o the approp	riate acquis	tion phase
FY 1995 Accomplishments: No FY 1995 program										
FY 1996 Planned Program: No FY 1996 planned program	program									
 FY 1997 Planned Program: 2000 Acoustics: Initiate EMD phase of dismounted battle space battle laboratory (DBBL) advanced concept technology II (Act II) combustion-driven acoustic pulser and demonstrate electric-powered alternative. Initiate platform integration of combustion-driven siren 900 Kinetics: Demonstrate cold temperature dispensability area coverage of 40mm Dye Marker; evaluate Muzzle Launched Ordnance as potential Soldier Enhancement Program (SEP); down select and generate preliminary performance specification for 12-gauge point control and area dispersal non-lethal munition; initiate variable velocity barrel EMD and testing 284 Entanglements: Prove-out optical proximity fuze critical operational parameters and ballistic deployment of net from 40mm M203 launcher 100 Vehicle stopper: Utilize results of vehicle stopper evaluation study to accelerate development of selected electric vehicle immobilizing devices Total 3284 	se of dismou ate electric-p emperature d i, down selec ble velocity b tical proxim Its of vehicle	unted battle space battle powered alternative. Ini dispensability area cover ct and generate prelimin barrel EMD and testing nity fuze critical operatic e stopper evaluation stuc	native. Initiinar area covera covera preliminar and testing cal operation (uation study)	thoratory (Date platform ge of 40mm y performan al parameter to accelerat	DBBL) advanintegration of Dye Marke Ce specificates and ballisted developmon	ced concept of combustic r; evaluate N tion for 12-g ic deployme int of selecte	technology on-driven sir fuzzle Laun auge point of nt of net fro ed electric ve	II (Act II) cen ched Ordnar control and a m 40mm M ehicle immo	ombustion-c tee as potent rea dispersa 203 launche bilizing devi	riven ial Soldier non- ces

Page 19 of 24 Pages

Project D712

Exhibit R-2 (PE 0604802A)

RDT&E BUDGET ITEM JUSTI	EM JUSTIFICATIO	N SHEET (FICATION SHEET (R-2 Exhibit)	DATE Marc	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopment	PE NUMBER AND TITLE 0604802A Weal Development	PENUMBER AND TITLE 0604802A Weapons and Munitions - Engineering Development	tions - Engineering	PROJECT D712
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995 Adjustment to FY 1996 Adjustment to FY 1996 Adjustments to Budget year (FY 1997) since FY 1996 President's Budget Current President's Budget	EX 1995 0 0 0	FY 1996 0 0 0	FY 1997 0 3284 3284		
Change Summary Explanation: Funding: FY 1997 new start program funded since submission of FY 1996 President's Budget.	led since submission of FY 19	996 President's Bı	ıdget.		
C. Other Program Funding Summary: Not applicable.	icable.				
D. Schedule Profile Demonstration Engineering testing	FY 1995	FY 1996	FY 1997 X	×	
Project D712	Pa	Page 20 of 24 Pages	-	Exhibit R-2 (PE 0604802A)	4802A)
		946			
	ONC	CINSIFIED			



RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	JECT CC	ST BR	EAKDC	WN (R-	<u></u>	DATE March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	800	PE NUMBER AND TITLE 0604802A Weal Development	ND TITLE Weaponent	ns and M	unitions -	PE NUMBER AND TITLE 0604802A Weapons and Munitions - Engineering Development	PROJECT D712
A. Project Cost Breakdown Product development Management and engineering support Test and evaluation Total	FY 1995 0 0 0	EY 1996 0 0 0	988 0 0 0	EY 1997 3284 0 0 3284			
B. Budget Acquisition History and Planning Information Performing Organizations Contractor or Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity Vehicle Date EAC Product Development Organizations	Project Office P EAC E3	Total Prior to	FY 1995	FY 1996	FY 1997	Budget to Complete	o Total e Program
ARDEC: NJ ERDEC: MD AVREC: VA ARL: MD Support and Management Organizations: None Test and Evaluation Organizations: None		0000	0000	0000	2684 100 100 400	934 0 100 30	34 3618 0 100 00 200 30 430
Government Furnished Property: Not applicable Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project		0000	0000	0000	3284 0 0 3284	1064 0 0 1064	54 4348 0 0 0 0 54 4348
Project D712	Page 21	Page 21 of 24 Pages	ş		Exhib	Exhibit R-3 (PE 0604802A)	(b)

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA	TION SI	HEET (R	FIFICATION SHEET (R-2 Exhibit)	bit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developmen	Jevelopm	ent	PEN 06(PE NUMBER AND TITLE 0604802A Weak Development	PE NUMBER AND TITLE 0604802A Weapons and Munitions - Engineering Development	and Mun	litions - l	Engineeri		PROJECT DAS1
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost

acquisition, fire control training effectiveness and reliability for small arms weapon systems. Current small arms include a variety of personal defense weapons (.38 caliber, ammunition. This project will develop a universal mounting bracket for the MK19-3 Grenade Machine Gun that provides a common mounting interface for various fire control devices. The current rear sight lacks sufficient structural integrity to mount such devices, including night vision equipment. Funding is sufficient to complete .45 caliber; 9mm), individual weapons (5.56mm-7.62mm), crew-served weapons (5.56mm-40mm) and related equipment such as fire control, training devices and A. Mission Description and Budget Item Justification: This program provides funds to develop existing and emerging technology to enhance lethality, target development, testing, and modification of the MK19-3 Grenade Machine Gun technical data package (TDP).

<u>486</u>

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486

DAS1 Small Arms Improvement

Acquisition Strategy: The universal mounting bracket will enter production as an engineering change to the current MK19-3 Grenade Machine Gun technical data package. Currently fielded systems will be modified through a MK19-3 modification effort that is currently unresourced.

FY 1995 Accomplishments: No FY 1995 program.

FY 1996 Planned Program:

- Draft performance specifications
- Purchase commercial hardware

 - Perform validation testing 237
- Finalize performance specifications 85
- Funds will be used for SBIR/STTR programs IAW the Small Business Innovation Research Program Reauthorization Act of 1992
 - Revised economic assumption- not available for execution
 - Total

FY 1997 Planned Program: No FY 1997 program

Project DAS1

Page 22 of 24 Pages

Exhibit R-2 (PE 0604802A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ICATION	I SHEET (I	R-2 Exhil	oit)	DATE March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604802A Weal Development	πτ∟ε Weapons nt	PE NUMBER AND TITLE 0604802A Weapons and Munitions - Engineering Development	- Engineering	PROJECT DAS1
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustments to FY 1995 Adjustment to FY 1996 Adjustments to Budget year (FY 1997) since FY 1996 President's Budget Current Budget Submit/President's Budget	FY 1995 0 0 0	EY 1996 0 491 -5	EX 1997 0			
Change Summary Explanation: Funding: : FY 1996: This program has been reduced for revised economic assumptions.	sed economic	: assumptions.				
C. Other Program Funding Summary: Not applicable. D. Schedule Profile FY 1995	•	FY 1996	•	Ž661 X		
Draft performance specifications Purchase commercial hardware Perform validation tests Finalize performance specifications	4	z ∞ ×	4 X	2 ×× ε		
Project DAS1	Page	Page 23 of 24 Pages		Ext	Exhibit R-2 (PE 0604802A)	A)
		949				

RDT&E	E PROG	ZAM ELE	RDT&E PROGRAM ELEMENT/PRO	ROJECT C	OST BE	EAKDC	COST BREAKDOWN (R-3)	≘	DATE March 1996	1996	
вирсет Астіміту 5 - Engineering and Manufacturing Developme	nd Manufa	acturing D	Development		PE NUMBER AND TITLE 0604802A Weal Development	AND TITLE A Weap ment	ons and M	unitions .	PENUMBER AND TITLE 0604802A Weapons and Munitions - Engineering Development	PROJECT DAS1	т .
A. Project Cost Breakdown Other government support Program management support Contract support Total	<u>down</u> nt ipport			FY 1995 0 0 0 0	FY 1996 386 50	99 <u>6</u> 386 50 50 486	EY 1997 0 0 0 0				
B. Budget Acquisition History and Planning Information	History and	Planning Inf	ormation								
Performing Organizations Contractor or Contra Government Metho Performing or Fun Activity Vehicle	ations Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete		Total Program
ARDEC Mevelophical Organizations	It Organization MIPR	2 096	288	288	0	0	286	0		0	286
: and Manag all Arms	ement Organiza MIPR	ations 2Q96	90	50	0	0	50				20
ACALA M. TACOM M.	MIPR MIPR	2Q96 3Q96	50 50	50 50	00	00	50 50	00		0 0	50 50
Test and Evaluation Organizations Aberdeen Test MIPR Center	Organizations MIPR	4096	50	50	0	0	50	0		0	20
Government Furnished Property: None	d Property:	None									
Subtotal Product Development	opment				0	0	286	0		0	286
Subtotal Support and Management Subtotal Test and Evaluation Total Project	lanagement ation				000	000	150 50 486	000		000	50 50 486
Project DACI				Page	Pase 24 of 24 Pases	897		ĬX L	Exhibit R-3 (PE 0604802A)	124)	
Tiology Days				92							





	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SUL M	TIFICA	TION SI	HEET (R	-2 Exhi	bit)		DATE M	March 1996	9
8006 5 - 1	вироет астилту 5 - Engineering and Manufacturing Development	velopm	ent	PE NU 060 Enç	PE NUMBER AND TITLE 0604804A Logis Engineering Dev	PENUMBER AND TITLE OGO4804A Logistics & Engineer Equipment Engineering Development	& Engine ment	er Equip	oment -		
	COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
	Total Program Element (PE) Cost	19804	20188	20330	16185	14391	9544	8915		Continuing	Continuing
PH01	Combat Engineer Equipment Engineering Development	4122	9425	9635	7577	4614	96	95		Continuing	Continuing
DH14	Logistics Support Equipment Engineering Development	2476	1324	88	88	88	96	95		Continuing	Continuing
DL39	General Support Equipment Engineering Development	1555	1603	1677	2136	2356	2105	2111		Continuing	Continuing
DL41	POL Distribution Equipment Engineering Development	1428	1187	1033	1155	1177	1147	1137		Continuing	Continuing
DL42	Camouflage System Engineering Development	0	1255	362	962	696	478	474		Continuing	Continuing
D194	Engine Driven Generators Engineering Development	1943	812	2230	269	286	702	704		Continuing	Continuing
D279	Airdrop Equipment Engineering Development	2054	1452	1444	1452	1452	1480	1468		Continuing	Continuing
D429	SICPS Rigidwall Shelter Engineering Development	4201	2791	3261	2386	1093	1240	1231		Continuing	Continuing
D461	Marine Oriented Logistics Equipment Engineering Development	2025	339	0	0	2366	2200	1600		Continuing	Continuing
Miss	Mining Benediation and Budget Item Instiffication.		Grow Flower	mt (DE) sum	ouis and state	m Pac suisa	This Program Flement (DE) supports engineering and manufacturing development (EMD) of new and advanced	o man of other	nt (EMID) of	to buo mon	1000

Mission Description and Budget Item Justification: This Program Element (PE) supports engineering and manufacturing development (EMD) of new and advanced combat support and combat service support equipment and therefore belongs in Budget Activity 5.

Page 1 of 41 Pages

Exhibit R-2 (PE 0604804A)

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA	TION SI	HEET (R	IIFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PE NI 060 Enç	PE NUMBER AND TITLE 0604804A Logis Engineering Dev	E NUMBER AND TITLE 0604804A Logistics & Eng Engineering Development	& Enginoment	PENUMBER AND TITLE OGO SENDINGER Equipment - Consistics & Engineer Equipment - Engineering Development	ment -	<u>a</u> 0	PROJECT DH01
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DH01 Combat Engineer Equipment Engineering Development	4122	9425	9635	7277	4614	96	95		Continuing	Continuing Continuing

A. Mission Description and Budget Item: This project supports the development and transition to procurement of military tactical bridging for wet and dry gap bridging bridging work is in support of the increased military load class (MLC) requirements for the M1 tank. This project also provides for the non-developmental item (NDI) requirements such as the Improved Common Bridge Transporter (ICBT), the Improved Ribbon Bridge (IRB) Bays, and the Heavy Dry Support Bridge (HDSB). All acquisition of the Deployable Universal Combat Earthmover (DEUCE) and market investigations of other engineer construction equipment.

Acquisition Strategy: ICBT - Competitive RDTE followed by procurement. HDSB - Competitive RDTE followed by procurement. DEUCE - Competitive procurement of integrated NDI

FY 1995 Accomplishments:

55 Developed DEUCE logistics	6 Procured preproduction prototypes for DEUCE	4 Initiated testing of preproduction prototypes for DEUCE	5 Completed ICBT PQT	0 Completed ICBT OT	1 Initiated preparations for ICBT Milestone III review	1 Initiated ICBT contract modification for transloadability and transportability	2
33	2776	7	275	300	361	341	4122
•	•	•	•	•	•	•	Total

FY 1996 Planned Program:

Conduct Source Selection for HDSB	280 Conduct Milestone II Review for HDSB	Award two HDSB Engineering Manufacturing Development (EMD) contracts
400	280	7432
•	•	•

Initiate IRB technical and configuration baseline

Complete preproduction qualification test for DEUCE Conduct Milestone III for ICBT 190 400 300 100

Conduct Milestone III IPR for DEUCE

Project DH01

Page 2 of 41 Pages

Exhibit R-2 (PE 0604804A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R	-2 Exhibit)		DATE March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604804A Logis Engineering Dev	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment - Engineering Development	ineer Equip	oment -	PROJECT DH01
FY 1996 Planned Program: (continued)					
FY 1997 Planned Program: 7846 Fabricate HDSB EMD prototypes 85 Prepare for Contractor Testing of HDSB EMD prototype 254 Prepare for award of IRB bays RDTE contract 1254 Initiate development and upgrade of IRB bays 196 Conduct market investigation for construction equipment Total 9635					
B. Project Change Summary Previous President's Budget Request (FY 1996) 2460 Appropriated Amount (FY 1995) 2409 Adjustment to FY 1995 1713	FY 1996 9691	FY 1997 10089			
Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget	9521 -96	-454			
Current President Budget Submit	9425	9635			
Change Summary Explanation: FY 1995 reflects a Congressional increase for the Improved Common Bridge Transporter (ICBT) and reprogramming of funds (+1711) for a second DEUCE prototype to increase reliability testing. As a result, ICBT and DEUCE programs are now on schedule.	nal increase for the Improved Common Bridge Transport result, ICBT and DEUCE programs are now on schedule.	n Bridge Transporte e now on schedule.	r (ICBT) and re	programming of fun	ds (+1711) for
C. Other Program Funding Summary EY 1995 FY 1996 FY BDTE 06028001 DG01 Combat Engineer	FY 1997 FY 1998	FY 1999 FY 2000	00 FY 2001	To Compl	To Total
9		96	9657 22000	Ö	Cont Cont
Project DH01	Page 3 of 41 Pages		Exhib	Exhibit R-2 (PE 0604804A)	(V)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SUL M	LIFICA	ION SH	IEET (R	-2 Exhit)it)		DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	velopme	'n	PE NU 060 Eng	PE NUMBER AND TITLE 0604804A Logis Engineering Dev	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment - Engineering Development	& Engine ment	er Equip	ment -	<u> </u>	PROJECT DH01
C. Other Program Funding Summary OPA3, M26800, Improved Common Bridge	FY 1995	FY 1996 3709	FY 1997 4300	FY 1998 4373	FY 1999 4434	FY 2000 4495	FY 2001 4561		To Compl Cont	Total Cost Cont
Iransporter OPA3, M26600, Improved Ribbon Bridge, Interior Bays						3172	3767		Cont	Cont
OPA3, M26700, Improved Ribbon Bridge, Ramp Bays OPA3, M06105, Deployable Universal Combat Earthmover		9627	7107		0066	1359	2142		Cont	Cont
D. Schedule Profile Awarded DEUCE contract Conduct PPQT for DEUCE Conduct Milestone III IPR for DEUCE Conduct Milestone II Review for HDSB Award HDSB EMD contract Fabricate HDSB EMD Prototypes Conduct Milestone III Review for ICBT Release Request for Proposal for IRB Bays Award IRB bays contract	FY 1995 2 3 X*	4	- × × × 2 ±	FY 1996 X X X X X X X	4 ×	FY 1997 2 3	70 E X X			
Project DH01			Page 4 of 41 Pages	41 Pages			Exhib	it R-2 (PE	Exhibit R-2 (PE 0604804A)	





RDT&E PROGRAM ELEMENT/P	I/PROJECT	COSTB	REAKD	COST BREAKDOWN (R-3)		DATE March 1996	96
вирвет Астіуіту 5 - Engineering and Manufacturing Development	nt	PE NUMBE 060480 Engine	PE NUMBER AND TITLE 0604804A Logis Engineering Dev	PE NUMBER AND TITLE 0604804A Logistics & Eng Engineering Development	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development		PROJECT DH01
A. Project Cost Breakdown	FY 1995		FY 1996	FY 1997			
DH01 DEUCE & Construction Equipment Program Management Support			80				
Govt Engineering Spt			200				
Prototype Hardware Development Developmental and Operational Testing	2776 14	νο τι					
Construction Equip Market Investigations			98	96			
Miscellaneous	55	5	120				
Subtotal DHOLERING CHISE ICET & IDEN	2845	5 0	486	96			
Primary Hardware Development			5792	6310			
Integrated Logistics Support (ILS)	50	0	100	100			
Technical Data development and data rights	201	_	1790	1590			
Developmental Test and Evaluation	93	~		552			
Program Management Support (three programs)	843	~	1093	845			
Miscellaneous	06	0	164	142			
Subtotal	1277	7	6268	9539			
Total	4122	~	9425	9635			
B. Budget Acquisition History and Planning Information							
Performing Organizations							
r Contract	-						
Government Method/lype Award or Pertorming	Project Office	Total Deige to					E
Vehicle	EAC	FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	l otal Program
ganizations		! :					
FFP Jul 95	2776		2776				
Contractor TBD C-CPFF Jul 96 18399 Contractor TBD C-CPFF Feb 97				7412	7950	Cont	Cont
		1394	1053	1313	952	Cont	Cont
Project DH01	Pay	Page 5 of 41 Pages	ges		Exhibit	Exhibit R-3 (PE 0604804A)	

RDT8	RDT&E PROGRAM ELEMENT/P	RAM ELE	EMENT/PR	OJECT	ROJECT COST BREAKDOWN (R-3)	REAKDO	WN (R-		DATE M	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	and Manuf	acturing D	evelopment		PE NUMBER AND TITLE 0604804A Logis Engineering De	PE NUMBER AND TITLE 0604804A Logistics & Eng Engineering Development	ics & Eng Hopment	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development	oment -	R O	PROJECT DH01
Contractor or Contract Government Method/Type Award Performing or Funding Obligs Activity Vehicle Date Total Support and Management Organizations	Contract Method/Type or Funding Vehicle	Award or Obligation Date ations None	Performing Activity EAC	Project Office EAC	Total Prior to F <u>Y 1995</u> 1394	F <u>Y 1995</u> 3829	FY 1996 8725	EY 1997 9156		Budget to Complete Cont	Total Program Cont
Test and Evaluation Organizations None Miscellaneous VSE Task Order Varion TACOM 1095 Varion TECOM 1095 Varion Total	Organizations Task Order 1095	None Various Various			454 150 539 983	100 100 93 293	200 200 300 700	150 248 85 483		Cont Cont Cont	Cont Cont Cont Cont
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Miscellaneous Total Project	elopment Management Iuation				Cont Cont	3829 293 4122	8725 700 9425	9156 483 9639		Cont Cont'd	Cont Cont'd
Project DH01				$P_{\mathcal{C}}$	Page 6 of 41 Pages	ges		Exhi	bit R-3 (PE	Exhibit R-3 (PE 0604804A)	
Flujvet Dane											





RDT&E	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SUL ME	TIFICAT	IS NO	HEET (R	-2 Exhi	bit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	nufacturing D	evelopmo	ent	PE NI 060 Enç	PE NUMBER AND TITLE 0604804A Logistics & Enç Engineering Development	ritle ogistics Develop	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development	er Equip			PROJECT DH14
COST (In Thousands)	sands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DH14 Logistics Support Equipment Engineering Development	Engineering	2476	1324	88	88	88	96	95		Continuing	Continuing
A. Mission Description and Budget Item Justification:	lget Item Justifica	_ Dev	lops and trar	sitions to p	rocurement	a series of N	elops and transitions to procurement a series of Material Handling Equipment (MHE) items.	dling Equip	oment (MHI	E) items.	
Acquisition Strategy: All Terrain Lifter Articulated System (ATLAS) - Competitive procurement Product Improvements (P3I) to ATLAS. MHE - Competitive procurements for miscellaneous MHE	All Terrain Lifter Articulated System P31) to ATLAS. MHE - Competitive p	ed System (mpetitive pr	ATLAS) - C	ompetitive or miscella	procurement neous MHE.	t of integrate	d NDI. Carg	go Containe	r Retriever ((ATLAS) - Competitive procurement of integrated NDI. Cargo Container Retriever (CCR) - Pre-Planned rocurements for miscellaneous MHE.	lanned
FY 1995 Accomplishments:	ments: Conducted Source Selection for ATI AS	A II A S									
, ,	Conducted Source Selection for ATLAS Preproduction Qualification Test (PPQT) vehicles Develoned ATLAS logistics	fabricate A	TLAS Prepr	oduction Q	ualification 3	Fest (PPQT)	vehicles				
252 149	Initiated ATLAS PPQT testing Economic Adjustment	۵n									
1 otal 24 / 6											
FY 1996 Planned Program: 790 Complete P 234 Complete A 200 Conduct A7	ogram: Complete Preproduction Qualification Testing of the ATLAS Complete ATLAS logistics development Conduct ATLAS Milestone III IPR	fication Test velopment I IPR	ing of the A	TLAS							
68 Conduct ma 29 SBIR/STTR	Conduct market investigations of material SBIR/STTR	of material	l handling equipment	ipment							
	Revised Economic Assumption not available for execution	n not availab	le for execut	ion							
97 Planned Pro 25 (25 (38 (ogram: Conduct market investigations for the Container Cargo Retriever Conduct market investigations for warehouse Material Handling Equipment Conduct market investigations for other general Material Handling Equipment	for the Confor warehou	ainer Cargo Ise Material neral Materi	Retriever Handling Eal Handling	quipment Equipment						
lotal 88				Dans 7 of	41 Dagg			ָ ֖֖֖֖֖֖֖֖֖֖֖֖֖֖֖֖֖֖֖֖֖֖֖֖֖֖֖֖֖֖֖֖֖֭֭֭֡֡֞֝֞֟)	060400407	
Project DH14				rage / 0j 41 rages	41 rages			EXUID EX	EXNIBIT K-Z (PE UDU48U4A)	Journal Journal	

B. Project Change Summary Previous President's Budget Request (FY 1996) Appropriated Amount (FY 1995) Appropriated Amount (FY 1996) Appropriated Amount (FY 1996) Appropriated Amount (FY 1996)		PE NUMBER AND TITLE	u F					•
EX.		0604804A Logistics & Enç Engineering Development	ogistics {	& Engine ment	Logistics & Engineer Equipment 19 Development	- -	PROJECT DH14	5 -
tripping trimping (t. t. t.)	XI	EY 1996 1362 1338	EY1997 90					
Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget		-14	-5					
Current President's Budget Submit		1324	8					
Change Summary Explanation: FY 1995 reflects a reduction due to reprogrammings (-4000) to higher priority Army projects. An unexpected lower contract cost for the ATLAS prototypes and reduced testing costs for ATLAS allowed this reprogramming.	o reprogrammings (-4000) to higher priority A costs for ATLAS allowed this reprogramming.	00) to higher ed this reprog	r priority Ar gramming.	my projects.	An unexpected			
C. Other Program Funding Summary EY 1995 FY 1996 RDTE, 0603804.DG14, Logistics Support 485 95	FY 1997 88	FY 1998 88	EY 1999 87	FY 2000 96	FY 2001 95	To Compl Cont	•	Total Cost Cont
Equipment, Advanced Development OPA3, M41800, All Terrain Lifting Articulating Surface	15953		10600	10600	10600	ŭ	Cont	Cont
OPA3, ML5365, Items Less Than \$2.0M (MHE) 4098 2753	2666	1747	1732	1870	1858	Ŭ	Cont	Cont
D. Schedule Profile FY 1995 1 2 3 4	FY 1	FY 1996 2 3	4	FY 1997 2 3	7 4			
p	××	××						
Conduct Market Investigations for MHE	t c		×		× :	!	;	
Project DH14	Page 8 of 41 Pages	l Pages			Exhibit R-2	Exhibit R-2 (PE 0604804A)	(€	





RDT&E	PROG	RDT&E PROGRAM ELEMENT/	EMENT/PR	OJECT	COST B	REAKD(PROJECT COST BREAKDOWN (R-3)	3	DATE	March 1996	9
вирсет Астімту 5 - Engineering and Manufacturing Developm	i Manuf	acturing [)evelopment		PE NUMBER 060480	PE NUMBER AND TITLE 0604804A Logis Engineering Dev	PENUMBER AND TITLE 0604804A Logistics & Eng Engineering Development	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development			PROJECT DH14
A. Project Cost Breakdown Government Engineering and Other Support	wn nd Other S	upport		EY 1995 225 1541		FY 1996 300	FY 1997			Walley Company	
Developmental Test and Evaluation Program Management Support Miscellaneous	aluation			252 252 121 188		822 134 68	88				
Economic Adjustment Total				149 2476		1324	80				
B. Budget Acquisition History and Planning Information	story and	Planning Inf	ormation								
Performing Organizations Contractor or Contract Government Method/ Performing or Fundil Activity Vehicle	ations Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997		Budget to Complete	Total
Product Development Organizations TRAC CPFF	ganization	s May 95	1541	1541		1541				•	
International Support and Management Organizations: None Test and Evaluation Organizations: None Miscellaneous	t Organiza inizations:	ations: None None									
TARDEC MIPR PO TECOM MIPR	~ ~	Various Various Various			947 175 420	323	323 211 790	88		Cont'd	Cont'd
neous al c ment					1542	786	1324	88			
Project DH14				Pag	Page 9 of 41 Pages	sai		Exh	Exhibit R-3 (PE 0604804A))604804A)	

RDT&E PROGRAM ELEMENT/PROJEC	ROJECT COST BREAKDOWN (R-3)	REAKDC	WN (R-		DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604804A Logis Engineering Dev	PE NUMBER AND TITLE 0604804A Logistics & Engengineering Development	ics & Eng	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development	1 .	<u>α</u> Ω	PROJECT DH14
Government Furnished Property: None							
Subtotal Product Development Subtotal Support and Management	Total Prior to FY 1995 Cont	<u>FY 1995</u> 1541	FY 1996	FY 1997		Budget to Complete Cont	Total Program Cont
Subtotal Test and Evaluation Miscellaneous Economic Adjustment	Cont	786	790 534	&		Cont	Cont
Total Project	Cont	2476	1324	88		Cont	Cont
Project DH14	Page 10 of 41 Pages	ges		Exhib	it R-3 (PE (Exhibit R-3 (PE 0604804A)	
	070						





	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	IFICAT	IS NOL	HEET (R	-2 Exhil	oit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering	вирдет астіvіту 5 - Engineering and Manufacturing Development	evelopme	ınt	PE NU 060	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment - Engineering Development	ıπ∟E ogistics Develop	& Engine ment	er Equip			PROJECT DL39
O	COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DL39 General Suppor Development	General Support Equipment Engineering Development	1555	1603	1677	2136	2356	2105	2111		Continuing	Continuing
A. Mission Descrip control units (ECU)	A. Mission Description and Budget Item Justification: Develop and transition to procurement water purification equipment, maintenance equipment and environmental control units (ECU) that do not use ozone depleting refrigerants.	ıtion: Devel refrigerants.	op and trans	ition to proc	urement wa	ter purificati	on equipmer	ıt, maintena	nce equipme	ent and envir	onmental
Acquisition Strateg	Acquisition Strategy: Development and transition to competitive procurement for all items under this project.	to competitiv	e procuremo	ent for all ite	ems under th	is project.					
FY 1995 Accomplishments: • 100 Compl	hments: Completed testing of NBC protective covers for the 3000 GPH ROWPU	tective cover	s for the 30	00 GPH RO	WPU.						
• 183	Initiated development of procedures and hardware for winteriz Completed evaluation of candidate lightweight water purifiers.	edures and ha	rdware for ght water p	vinterization urifiers.	hardware for winterization of water storage and distribution equipment. veight water purifiers.	orage and dis	stribution eq	uipment.			
100	Completed market investigation of Packaged Water System.	on of Package	d Water Sy	stem.	Į						
72	Initiated contract package for design/rabrication of lightweight water purifier. Performed Cost and Operational Effectiveness Analysis on NBC Survivability of 3000 GPH ROWPU.	design/rabric ial Effectiven	ition of ligh ess Analysi	rweignt war s on NBC Si	er purimer. urvivability (of 3000 GP	H ROWPU.				
50	Completed market investigation of commercial 1500 GPH ROWPU systems.	on of comme	cial 1500 G	PH ROWPU	J systems.						
150	Completed the Milestone 0 In Process Review for the 1500 GPH ROWPU.	Process Revi	ew for the 1	500 GPH R	OWPU.	į					
250	Investigated improvements into reverse osmosis membranes for 1500 GPH ROWPU. Initiated trade off analysis of subsystems for 1500 GPH ROWPU.	to reverse osr subsystems fo	smosis membranes for 1 for 1500 GPH ROWPU	ranes for 15 I ROWPU.	00 GPH RO	WPU.					
Total 1555	•										
000	Conduct tests on 36K British Thermal Units ner Hour (BTUH) Environmental Control Units (ECU) prototynes	Thermal I Init	s ner Hour (RTI IH) Env	/ironmental (Control Unit	s (ECLI) pro	tofvnes			
150	Conduct Milestone I/II In Process Review for 1500 GPH ROWPU.	cess Review	or 1500 GP	H ROWPU							
300	Complete trade off analysis of subsystems for 1500 GPH ROWPU.	subsystems a Treet Dod 11	Is for 1500 GF	'H ROWPU							
300	Design and rabricate integrated 1est Bed Unit Initiate contract package for design/fabrication of 1500 GPH ROWPU EMD prototypes.	d Test Bed U esign/fabrica	nit ion of 1500	GPH ROW	PU EMD pr	ototypes.					
34	SBIR/STTR)			•	:					
Project DL39				Page 11 of 41 Pages	41 Pages			Exhib	Exhibit R-2 (PE 0604804A)	3604804A)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	IION SH	EET (R-	2 Exhib	Œ	<u> D</u>	DATE March 1996	1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUT 0604 Engi	PE NUMBER AND TITLE 0604804A Logistics & Eng Engineering Development	त्तह gistics है Developr	k Engine nent	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development	ent -	PROJECT DL39	CT.
FY 1996 Planned Program: (continued) A Revised Economic Assumption not available for execution Total 1603								
 FY 1997 Planned Program: 171 Prepare data package for improved ECU procurement. 500 Perform technical feasibility testing of Integrated Test Bed Unit 200 Update Program Management Documentation 806 Award contract for fabrication of EMD 1500 GPH ROWPU. Total 1677 	Bed Unit WPU.							
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995	걾	<u>FY 1996</u> 1649	FY 1997 1734					
Appropriated Amount (FY 1996) Adjustment to FY 1996		1620 -17						
Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget			-57					
Current President's Budget Submit		1603	1677					
C. Other Program Funding Summary FY 1995 FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	Ö	To Compl	Total Cost
	698	1449	1428	1720	1871	O	Cont	Cont
OPA3, MI-5335. Items Less Than \$2.0M (Water 3969 2320	1462 2970	1487	4816	4679	4752		Cont	Cont
Equipment) OPA3, RO5100, Water Purifier Unit Reverse Osmosis 3000 GPH				4677	6501		Cont	Cont
Project DL39	Page 12 of 41 Pages	11 Pages			Exhibit	Exhibit R-2 (PE 0604804A)	4A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION	SHEET (F	₹-2 Ex	hibit)		DATE	March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development	गापट Logistik g Devel	ss & E	ngineer nt	Equipmer	-t-	PROJECT DL39
D. Schedule Profile FY 1995	-	FY 1996 2 3	4		FY 1997 2 3	4		
Completed testing of NBC protective covers for the 3000 GPH ROWPU. Completed evaluation of candidate lightweight water purifiers. Completed market investigation of Packaged Water System. Completed the Milestone 0 In Process Review for the 1500 GPH ROWPU. Conduct tests on 36K British Thermal Units per Hour (BTUH) Environmental Control Units (ECU) prototypes. Conduct Milestone I/II In Process Review for 1500 GPH ROWPU. Complete trade-off analysis of subsystem for 1500 GPH ROWPU Initiate contract package for design/ fabrication of 1500 GPH ROWPU EMD prototypes Design and fabricate prototype 1500 GPH ROWPU ROWPU Perform technical feasibility test of 1500 GPH ROWPU EMD prototype contract Update Program Management Documentation		* *	×	•	× ×	×		
Project DL39	Page	Page 13 of 41 Pages				Exhibit R-2	Exhibit R-2 (PE 0604804A	(4
		663						

RE	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	RAM EL	EMENT/PR	OJECT (SOST B	REAKDO	WN (R-	3)	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ng and Manu	facturing [)evelopment		PE NUMBER 0604804 Engine	PE NUMBER AND TITLE 0604804A Logist Engineering Deve	PENUMBER AND TITLE 0604804A Logistics & Eng Engineering Development	PENUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development		E O	PROJECT DL39
A. Project Cost Breakdown Hardware Development Operational Test and Evaluation Development Test and Evaluation Government Engineering and Support Government Program Support Miscellaneous Total	Breakdown oment and Evaluation and Evaluation neering and Supporan	¥		FY 1995 1253 252 50 1555	A A	EY 1996 1090 86 325 50 52 1603	EY 1997 867 450 250 60 50 1677				
B. Budget Acquisition History and Planning Information Performing Organizations Contractor or Contract Government Method/Type Award or Perform Performing or Funding Obligation Active Activity Vehicle Date E.	nization History and Contract Method/Type or Funding	1 Planning Inf Award or Obligation Date	ormation Performing Activity EAC	Project Office EAC	Total Prior to EY 1995	EV 1995	FY 1996	FY 1997		Budget to Complete	Total Program
Product Developing Support and Maracet and Evaluat Miscellaneous TARDEC CECOM Radian CRREL	Product Development Organizations - None Support and Management Organizations - None Test and Evaluation Organizations - None Miscellaneous TARDEC In-House Various CECOM In-House Various Radian Task Order Various CRREL MIPR Various	ns - None zations - None s - None Various Various Various				970	657 88 20	386 71 100 20			
Dugway P.G. BRTRC ARL ATCOM Vitro Inc. NSF	MIPR Task Order MIPR Task Order MIPR	Various Various Various Various Jan 95				25 170 25 83 83	100 100 15 15 36	50 100 50 50 50			
Project DL39	MILER	re0 93		Page	Page 14 of 41 Pages	30 ges		Exhib	Exhibit R-3 (PE 0604804A)	604804A)	





RD	T&E PROG	RAM EL	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	DJECT (COST B	REAKDC	WN (R-	<u></u>	DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	g and Manu	facturing [Development		PE NUMBER 060480. Engine(PE NUMBER AND TITLE 0604804A Logistics & Eng Engineering Development	iics & Eng ∍lopment	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development	ipment -		PROJECT DL39
Contractor or Contract Government Method/Type Awa Performing or Funding Oblig Activity Vehicle Date CHIPPM MIPR VarianteCOM MIPR VarianteCOM MIPR VarianteCOM MIPR VarianteCOM MIPR VarianteCONTRAL MIPR Varianter MIPR Varianter (TBD) CPFF Decay Contractor (TBD) CPFF Decay MIPR Varianted Product Development - None Subtotal Support and Management - None Miscellaneous Total Project	Contract Method/Type or Funding Vehicle MIPR MIPR MIPR MIPR CPFF MIPR CPFF MIPR condition - None valuation - None	Award or Obligation Date Various Various Various Dec 96 Various None	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	EY 1995 12 1555 1555 1555	EY 1996 50 400 75 47 1603 1603	EY 1997 200 50 50 1677 1677		Budget to Complete	Total Program
Project DL39				Pag	Page 15 of 41 Pages	sesi		Exhi	Exhibit R-3 (PE 0604804A)	0604804A)	

	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA.	FION SE	HEET (R	-2 Exhi	bit)		DATE	March 1996	
BUDGET ACTIVITY 5 - Engineeri	вирсет Астіvіт у 5 - Engineering and Manufacturing Development	evelopm	ent	PE NU 060 Enç	PE NUMBER AND TITLE 0604804A Logis Engineering Dev	PE NUMBER AND TITLE 0604804A Logistics & Eng Engineering Development	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development	er Equip			PROJECT DL41
	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DL41 POL Distributi Development	POL Distribution Equipment Engineering Development	1428	1187	1033	1155	1177	1147	1137		Continuing	Continuing
A. Mission Descr	A. Mission Description and Budget Item Justification:	ľ	elop and tra	nsition to pr	ocurement p	etroleum sto	Develop and transition to procurement petroleum storage and distribution systems.	tribution sy:	stems.		
Acquisition Strategy:	egy: Development of and transition to competitive procurement for all items under this project.	on to compet	itive procur	ement for all	items under	this project.	_				
FY 1995 Accomplishments: • 1205 Comple	mplishments: 1205 Completed fabrication of Lightweight Arctic Forward Area Refueling (LAFARE) prototypes and Phase I Pre-Production Qualification Testing	htweight Arc	tic Forward	Area Refuel	ling (LAFA	RE) prototy	pes and Pha	se I Pre-Proc	fuction Qua	lification Tes	ting
• •	50 Continued long term exposure testing of tank fabrics. 73 Initiated market investigation for improved Tactical I	e testing of ta	nk fabrics.	o occupation			Consti				
•	10 Initiated pipeline corrosion study and testing	ndy and testin	i raciicai fu ig	ाटा अणाबहुट ब	na Distribut	ion System	(1F3D3) co	mponents.			
Total 1428	87										
FY 1996 Planned Program:	d Program:										
33.	375 Complete Phase II PPQT, logistics demonstration, and physical configuration audit for LAFARE.	istics demons	tration, and	physical cor	ıfiguration a	udit for LAF	'ARE.				
• • • • • • • • • • • • • • • • • • •	100 Conduct Milestone III - type classification for LAFARE. 452 Perform market investigation and test improved TFSD candidate items	classification and test impr	for LAFAR oved TFSD	E. candidate it	sme						
•		d specificatio	ns for design	n and testing	of TFSD co	mponents.					
• (So Continue long term exposure testing of tank	testing of tan	k fabrics.	-	i i						
•	27 SBIR/STTR	ioi reiioleuli		alysis set (i	Quainy Analysis Set (PQAS) EMD prototypes	prototypes					
•		on not availat	le for execu	tion							
Total 1187											
Project DL41				Page 16 of 41 Pages	41 Pages			Exhibi	Exhibit R-2 (PF 0604804A))604804A)	
				990	9				7 17 2 11 7	(V+00+000	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SOL M	TIFICAT	ION SH	EET (R	-2 Exhil	jį (DATE Ma	March 1996	
вирсет астіліту 5 - Engineering and Manufacturing Development	velopme	ent	PE NU 060 Eng	PE NUMBER AND TITLE 0604804A Logistics & Eng Engineering Development	пле ogistics Develop	& Engine ment	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development	1	DI DI	PROJECT DL41
FY 1997 Planned Program:	al prototypo 3- AS EMD pr sting of tanl	es. ototypes c fabrics								
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995		FX 1995 1457 1429 -1	FY	FY 1996 1220	EX 1997 1070					
Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustment to Budget Year (FY 1997) since FY 1996 President's Budget				-12	-37					
Current President's Budget Submit		1428		1187	1033					
C. Other Program Funding Summary RDTE, 0603804.DK41, POL Distribution Fouriement Advanced Development	FY 1995 648	FY 1996 885	FY 1997 891	FY 1998 912	FY 1999 876	FY 2000 958	FY 2001 951		To Compl	Total <u>Cost</u> Cont
OPA3, ML5330, Items Less Than \$2.0M (POL)	8273	4554	5331	2274	3117	3232	3116		Cont	Cont
	FY 1995 2 3	4	FY 1	FY 1996 2 3	4	FY 1997 2 3	3 4			
Continued long term exposure testing of X* tank fabrics Completed LAFARE prototypes and conducted Phase I PPQT Initiated market investigation for TFSD	*×	*								
components Project DL41			Page 17 of 41 Pages	I Pages			Exhibi	Exhibit R-2 (PE 0604804A)	04804A)	

RDT&E BUDGET ITEM JUSTIFICATIO	IFICATION SHEET (R-2 Exhibit) DATE M	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PENUMBER AND TITLE 0604804A Logistics & Engineer Equipment - Engineering Development	PROJECT DL41
D. Schedule Profile	FY 1996 FY 1997	
Initiated pipeline corrosion analysis and testing Complete Phase II PPQT and logistic demonstration for LAFARE Complete market investigation of TFSD components Complete physical configuration	× ×	
Conduct MS III IPR for TFSD Award TFSDS competitive design contract Procure long lead items for PQAS EMD prototypes	× ×	
Project DL41	Page 18 of 41 Pages Exhibit R-2 (PE 0604804A)	604804A)
	0,70	





RDT&E	E PROG	PROGRAM ELEMENT		/PROJECT	SOST BI	REAKDC	COST BREAKDOWN (R-3)	3)	DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	and Manu	facturing E)evelopment		PE NUMBER AND TITLE 0604804A Logis Engineering Dev	PE NUMBER AND TITLE 0604804A Logistics & Eng Engineering Development	ics & Eng ₃lopment	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment - Engineering Development			PROJECT DL41
A. Project Cost Breakdown Hardware Development Test and Evaluation Government Engineering and Support Government Program Support Total	akdown t ng and Suppo	ᄕ		FY 1995 722 350 281 75	FY	FY 1996 665 103 346 73 1187	EY 1997 421 50 490 72 1033				
B. Budget Acquisition History and Planning Information Performing Organizations	n History and tions	1 Planning Info	ormation								
ppmen lanage ation	Contract Method/Type or Funding Vehicle it Organization ement Organiz	Award or Obligation Date ns -TARDEC zations - ARL,	Performing Activity EAC , Navy, ATCOM EXCOM	Project Office EAC	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	FY 1998	Budget to Complete	Total Program
Miscellaneous: TARDEC In-House Vario Contractors CPFF 9312 TECOM MIPR 9512 ARL MIPR 9402 ARL MIPR 9603 Navy MIPR 9603	In-House CPFF MIPR MIPR MIPR	Various 9312 9512 9402 9602 9603			119 1283 12 10	123 1283 12 10	350 529 113 10 25 160	500 458 40 10 25			
Project DL41				Page	Page 19 of 41 Pages	səz		m A	Exhibit R-3 (PE 0604804A)	0604804A)	

696

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BREAKDO	WN (R-3		DATE March 1996	1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PENUMBER AND TITLE 0604804A Logistics & Engineer Equipment - Engineering Development	ics & Eng	ineer Equipm	ient -	PROJECT DL41	ест ,1
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	FY 1995 1366 50	EY 1996 1039 35 113	FY 1997 913 80 40	Budget to Complete Cont Cont Cont	·	Total Program Cont Cont Cont
Subtotal Miscellancous Total Project	1428	1187	1033	J	Cont	Cont
Project DL41	Page 20 of 41 Pages		Exhibit I	Exhibit R-3 (PE 0604804A)	304A)	





RDT&E BUDGET ITEM JUS	EM JUS	TIFICAL	TION SE	TIFICATION SHEET (R-2 Exhibit)	-2 Exhil	bit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme)evelopm	ent	PENI 060 Eng	PE NUMBER AND TITLE 0604804A Logistics & Eng Engineering Development	rinle ogistics Develop	& Engine	ENUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development	ment -	E O	PROJECT DL42
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DL42 Camouflage System Engineering Development	0	1255	962	962	959	478	474		Continuing	Continuing Continuing

procurement low cost low observable systems for suppression of visual, near-infrared, thermal, radar, and acoustic signatures of highly mobile and semi-mobile weapon A. Mission Description and Budget Item Justification: Project DL42, which is restructured in FY 96 from DH01, provides for development and transition to assets.

Acquisition Strategy: Develop camouflage systems for the Services and transition items to competitive procurement.

FY 1995 Accomplishments: None

FY 1996 Planned Program:

- 1224 Develop desert Ultralightweight Camouflage Screening System (ULCANS)
 - SBIR/STTR
- Revised Economic Assumption not available for execution
- Total

FY 1997 Planned Program:

- Incorporate Electro-Optic (EO) signature enhancements in ULCANS
- Develop urban ULCANS for Military Operations in Urban Terrain (MOUT) Advanced Concept Technology Demonstration (ACTD) 300 Develop snow ULCANS262 Incorporate Electro-Optic (I400 Develop urban ULCANS fo962
 - Total

Project DL42

Page 21 of 41 Pages

Exhibit R-2 (PE 0604804A)

RDT&E BUDGET ITEM JUSTI	IFICATION	FICATION SHEET (R-2 Exhibit)	R-2 Exhit	oit)	DATE	March 1996	
вироет астіміту 5 - Engineering and Manufacturing Development	t.	PE NUMBER AND TITLE 0604804A Logistics & Eng Engineering Development	тпс Logistics { g Develop	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development		PROJECT DL42	ا ا
B. Project Change Summary Previous President's Budget Request (FY 1996) Appropriated Amount (FY 1995)	FY 1995	FY 1996 1290	FY 1997 995				
Adjustment to FY 1995 Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current President's Budget Submit		1268 -13 1255	-33				
C. Other Program Funding Summary EY 1995 RDTE, 0602786.AH20, Mobility Equipment 9637 Technology	FY 1996 F	FY 1997 FY 1998	FY 1999	EY 2000 EY 2001	10	To	Total Cost
D. Schedule Profile 1 2 3 Desert ULCANS P31 MDR Snow ULCANS P31 MDR EO Signature Enhancements ULCANS P31 MDR	4	FY 1996	4 - ×	FY 1997 2 3	4 ××		
Project DL42	Pa	Page 22 of 41 Pages		<u>மி</u>	Exhibit R-2 (PE 0604804A)	34804A)	





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	JECT COST BI	REAKDOWN	V (R-3)	DATE March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604804A Logis Engineering Dev	PE NUMBER AND TITLE 0604804A Logistics & Eng Engineering Development	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment - Engineering Development		PROJECT DL42
A. Project Cost Breakdown Government Engineering Support Contractor Engineering Support Developmental Test and Evaluation Travel Miscellaneous Total	EY 1995 EY	FY 1996 FY 1997 515 400 414 362 250 150 56 30 20 20 1255 962	997 400 362 150 30 20		
B. Budget Acquisition History and Planning Information: None					
	·				
Project DL42	Page 23 of 41 Pages	ses	Exhib	Exhibit R-3 (PE 0604804A)	(A)
	973				

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA	TION S	TIFICATION SHEET (R-2 Exhibit)	-2 Exhi	bit)		DATE	March 1996	
вирбет Астіvіту 5 - Engineering and Manufacturing Development	evelopm	ent	PENI 060 Enç	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment - Engineering Development	TITLE .ogistics Develop	& Engine	ser Equip	oment -	۵	PROJECT D194
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D194 Engine Driven Generators Engineering Development	1943	812	2230	269	286	702	704		Continuing	Continuing Continuing

A. Mission Description and Budget Item Justification: Develop and transition to procurement a series of diesel engine driven generator sets/auxiliary power units and provide continual modernization of fielded sets in order to meet Federally mandated environmental statutes with reduced weight and size and reduced thermal signatures.

Acquisition Strategy: Develop and transition to competitive procurement all items in this project.

1995 Accomplishments:

- Completed design and down-selected 5kW 28VDC Auxiliary Power Unit (APU).
 - Initiated testing of 5kW 28VDC APU. 350

 - Economic Adjustment

943 Total

FY 1996 Planned Program:

- Begin fabrication of 5kW 28VDC APU Pre-production Qualification Test (PPQT) models. 268 252
 - Begin testing of 5kW 28VDC APU PPQT models.
- Complete fabrication of 5kW 28VDC PPQT models. 253
- Begin development of 3kW Tactical Quiet Generator (TQG).

- Revised Economic Assumption not available for execution
 - Total

FY 1997 Planned Program:

- Complete testing of 5kW 28VDC APU PPQT models.
- Complete preparation of formal program review of 5kW 28VDC APU. 149
- Award competitive contracts for design and prototype development of 3kW sets. 0091
 - Evaluate state of the art designs for lightweight 3kW generator sets.

Total

Project D194

Page 24 of 41 Pages





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUST	IFICAT	ION SH	EET (R	-2 Exhil) (£)		DATE Ma	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopme	nt	PE NU 060 4	PE NUMBER AND TITLE 0604804A Logistics & Eng Engineering Development	π∟ε ogistics Develop	& Engine ment	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment - Engineering Development		PR.	PROJECT D194
B. Project Change Summary Previous President's Budget Request (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995		EY 1995 1989 1957	FY	FY 1996 833	EY 1997 2299					
Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996	966	•		819 -7	69-					
Current President's Budget Submit		1943		812	2230					
C. Other Program Funding Summary RDTE, 0603804.DG11, Advanced Electrical	FY 1995 744	FY 1996 221	EY 1997 217	FY 1998 215	FY 1999 212	FX 2000 290	FY 2001 288		To Compl Cont	Total Cost Cont
Energy Concepts Advanced Development OPA3, MA9800, Generators & Associated Equipment	25842	13332	13187	15165	87244	115040	99705		Cont	Cont
D. Schedule Profile	FY 1995 2 3	4	F3	FY 1996 2 3	4	FY 1997 2 3	7 3 4			
Completed design & down-select 5kW 28VDC APU Initiated testing 5kW 28VDC APU Begin fabrication of 5kW 28VDC APU	*	*	×							
PPQT models Begin testing of 5kW 28VDC APU PPQT					×					
models Complete fabrication of 5kW 28VDC PPOT models				×						
Complete testing of 5kW 28VDC APU PPQT models						×				
Complete preparation of formal program review of 5kW 28 VDC APU							×			
Project D194] :	P	Page 25 of 41 Pages	1 Pages			Exhibit	Exhibit R-2 (PE 0604804A)	14804A)	
			370					1		

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development	
D. Schedule Profile	661	
	4 - ×	
Project D194	Page 26 of 41 Pages Exhibi	Exhibit R-2 (PE 0604804A)
	926	





RDT&E P	PROGRAM ELEMENT/	ELEI		PROJECT (COST BREAKDOWN (R-3)	REAKDO	WN (R-		DATE M.	March 1996	9
вирсет Астіvіту 5 - Engineering and Manufacturing Developm	Manufacturi	ing De	velopment		PE NUMBER AND TITLE 0604804A Logis Engineering De	re number and Title 0604804A Logistics & Eng Engineering Development	ics & Eng Jopment	DTITLE Logistics & Engineer Equipment ig Development	ment -		РРОЈЕСТ D194
A. Project Cost Breakdown Primary Hardware Development Test and Evaluation Government Engineering & Support Program Management Miscellaneous Total	ent Support			FY 1995 1122 200 300 100 221 1943		FY 1996 397 182 70 75 88 812	EY 1997 1550 150 430 60 40 2230				
B. Budget Acquisition History and Planning Information Performing Organizations Contractor or Contract Government Method/Type Award or Perform Performing or Funding Obligation Activity Yehicle Date E. Product Development Organizations Contractors CPFF 9406	ory and Planning Lict AType Award or ding Obligation Date nizations 9406	ng Infori	rmation Performing Activity EAC	Project Office <u>EAC</u>	Total Prior to FY 1995	EY 1995 1122	FY 1996 400	FY 1997 1600		Budget to Complete	Total Program
d Manago valuation ous: .nt	Organizations: Nizations: None Ise Various Various	None is				589 200 32 1943	215 200 815	480 150 2230		Cont	Cont
Government Furnished Property: None Project D194	perty: None			Page	Page 27 of 41 Pages	səi		Exhibi	Exhibit R-3 (PE 0604804A))604804A)	

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BF	REAKDO	WN (R-	<u> </u>	DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604804A Logis Engineering Dev	PE NUMBER AND TITLE 0604804A Logistics & Eng Engineering Development	ics & Eng lopment	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development		<u>P</u>	РКОЈЕСТ D194
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Subtotal Miscellaneous Total Project	Total Prior to FY 1995	E <u>Y 1995</u> 1943 1943	EY 1996 812 812	EY 1997 2230 2230		Budget to Complete	Total Program
	Date 28 of 41 Pares		•	.	ក្នុង ស.ភ. ជ	Evhibit B.3 (DE O604804A)	
Froject D194	070	859		Š		V 1000	





<u>.</u>	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICAL	ION SE	HEET (R	-2 Exhil	bit)		DATE M	March 1996	9
BUDGET ACTIVITY 5 - Engineering	вирсет Астіvіт у 5 - Engineering and Manufacturing Developm	evelopm	ent	PE NU 060 Enç	PE NUMBER AND TITLE 0604804A Logis Engineering Dev	PENUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development	& Engine ment	eer Equip	oment -		РRОЈЕСТ D279
ŏ	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D279 Airdrop Equipme	Airdrop Equipment Engineering Development	2054	1452	1444	1452	1452	1480	1468		Continuing	Continuing
A. Mission Descript equipment. Air deliv	A. Mission Description and Budget Item Justification: Develop and transition to procurement cargo and personnel parachu equipment. Air delivery equipment will improve safety and facilitate airborne cargo insertions into non-permissive environments.	nd fa	velop and tri itate airborn	ansition to p e cargo inse	rocurement rtions into n	cargo and po	ersonnel par e environm	achutes, airc ents.	Develop and transition to procurement cargo and personnel parachutes, airdrop containers and associated acilitate airborne cargo insertions into non-permissive environments.	ers and assoc	iated
Acquisition Strategy	Acquisition Strategy: Developments transition to competitive procurement.	competitive p	rocurement.								
FY 1995 Accomplishments: 85 Complements:	hments: Completed user testing of All Purpose Weapons and Equipment Container (AIRPAC) to enhance airborne soldier landing safety and assure combat	Purpose Wea	pons and Ec	luipment Cc	ontainer (AII	PAC) to en	hance airbor	me soldier la	ınding safety	/ and assure	combat
• 693	Completed combined technical/user testing for 60,000 pound airdrop system allowing airdrop of linked loads using the C-17 aircraft increasing lethality and rapid ground assembly of prime movers, weapon systems, and ammo combinations	al/user testing	for 60,000 p	pound airdr	op system al	lowing airdr mo combina	op of linked tions	loads using	the C-17 air	craft increas	ing
419	Provided support to the USAF C-17 aircraft program to ensure that Army personnel and cargo requirements are met Initiated development of Guided Parafoil Air Dron System - Light (GDADS-1) Rapid Acquisition Program to provi	F C-17 aircra	t program to	ensure that	Army perso	nnel and car	go requirem	nents are me	aft program to ensure that Army personnel and cargo requirements are met Air Dron System - I toht (GDADS-I.) Rapid Acquisition Program to provide a precision guided offset	on anided of	re et
	delivery capability for payloads up to 1500 pounds	ids up to 1500	spunod	mgur - ma	(7-67W ID)	, redpid rich		eranı co prov	ide a precisi	on garaca or	1361
Total 2054											
FY 1996 Planned Program:	rogram:	-		1.							
222	Type classity ov,000 pound airdrop system (single and infred platform). Complete the Army airdrop capability effort directly supporting the USAF C17 program ensuring a fully operational airborne capability and airborne	anrarop syster apability effo	n (single and rt directly su	i imked piat ipporting the	rorm). • USAF C17	program en	suring a full	ly operationa	ıl airborne ca	apability and	airborne
708	soldier safety. Conduct technical/onerational tests and type classify GPADS-L as part of the Warfighting Rapid Acquisition Program (WRAP)	I tests and tvr	e classify G	PADS-L as	part of the V	Varfighting I	Ranid Acqui	sition Progra	am (WRAP)		
300	Evaluate Advanced Reserve Parachute System (ARPS) candidates from market survey, a companion system to the Advanced Tactical Parachute	Parachute Sys	tem (ARPS)	candidates	from market	survey, a co	ompanion sy	stem to the	Advanced Ta	actical Parac	hute
32	System (main cariopy). Arr's is a concurrent program to increase sarety and remainty or roice Arr Amborne assault operations. SBIR/STTR	S IS & COILCUI	ieni program	i to merease	saiety allu i	eulainty of r	Olce VVI A	ALL DOLLIGE ASSE	un operatioi	ls.	
•	Revised Economic Assumption not available for execution	on not availał	le for execu	tion							
Total 1452							*				
Project D279				Page 29 of 41 Pages	41 Pages			Exhib	Exhibit R-2 (PE 0604804A)	3604804A)	
				•							

RDT&E BUDGET ITEM JUST		N SHEET	FICATION SHEET (R-2 Exhibit)	bit)		DATE March	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	nt	PE NUMBER AND TITLE 0604804A Logis Engineering De	DE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development	& Engine ment	er Equip	ment -	PROJECT D279	ест .9
 FY 1997 Planned Program: 1050 Design, fabricate and conduct Technical Testing (TT) of prototype ARPS to improve the safety and lethality of Force XXI Airborne assault operations 394 Acquire and evaluate prototype systems for 500 foot, medium weight (20,000 lbs), Air Drop System, providing improved accuracy and significantly reduced vulnerability for Army combat equipment and AF delivery aircraft, during airborne assault operations 	ting (TT) of pro 500 foot, mediun pment and AF d	totype ARPS 1 m weight (20,(o improve the sa 100 lbs), Air Dro	fety and leth: p System, pro e assault oper	ality of Forc oviding impr ations	e XXI Airborne a	assault nd significe	untly
B. Project Change Summary Previous President's Budget Request (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995	FY 1995 1487 1456 598	FY 1996 1493	EY 1997 1496					,
Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget		1467	-52					<u>, , , , , , , , , , , , , , , , , , , </u>
Current President's Budget Submit	2054	1452	1444					
Change Summary Explanation: Additional FY 95 funding (+ 598)	reprogrammed	due to increas	reprogrammed due to increased costs for GPADS-L system.	DS-L system	نہ			· i
C. Other Program Funding Summary EY 1995 RDTE, 0603804.D266, Airdrop Equipment 1197	FY 1996 FY 1452	EV 1997 EV 1998 1444 1452	1998 FY 1999 1452 1452	FY 2000 1433	FY 2001 1611	O	To Compl Cont	Total Cost Cont
OPA3, R10901, Low Velocity Airdrop Delivery System (TVADS)				1600	3900		Cont	Cont
OPA3, R10902, Advanced Precision Aerial Delivery System				5300	12200		Cont	Cont
Project D279	Page	Page 30 of 41 Pages	SE		Exhibit	Exhibit R-2 (PE 0604804A)	304A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	T ITE	N JUST	IFICA.	NOL	SHEET	(R-2	Xhib	Ē		DATE	March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ing De	velopme	Ę	<u> </u>	PE NUMBER AND TITLE 0604804A Logistics & Eng Engineering Development	A Logical Ing Devi	stics & velopn	Engin	eer Ec	DE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development	ı	PROJECT D279
D. Schedule Profile	_	FY 1995	,	-	FY 1996	\	-	FY 1997	761	,		
Concluded testing of AIRPAC Initiated GPADS-L WRAP Support AF to Defense Acquisition Board (DAB) Decision on C-17 Aircraft Type Classify 60K airdrop system Type Classify GPADS-L Evaluate ARPS form market survey Design, fabricate and conduct TT of ARPS Acquire and evaluate systems for 20K Airdrop System	•	· * * *	-	· ×			•	1		× ×		
Project D279				Page 3	Page 31 of 41 Pages	SS			Ü	chibit R-2 (F	Exhibit R-2 (PE 0604804A)	(4)
					981							

RDT&E P	RDT&E PROGRAM ELEMENT/P	EMENT/PRC	JECT C	OST BE	EAKDC	ROJECT COST BREAKDOWN (R-3)	3)	DATE Marc	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Aanufacturing [Jevelopment		PE NUMBER AND TITLE 0604804A Logis Engineering Dev	AND TITLE A Logist ring Deve	PE NUMBER AND TITLE 0604804A Logistics & Eng Engineering Development	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development	pment -	PRC D2	РRОЈЕСТ D279
A. Project Cost Breakdown Primary Hardware Development Program Management Support Test and Evaluation Total	ent T		EX 1995 1437 255 362 2054	EX 1996 972 185 295 1452	1996 972 185 295	EX 1997 959 185 300 1444				
B. Budget Acquisition History and Planning Information	ory and Planning Inf	ormation								
Performing Organizations Contractor or Contract Government Method/Type A Performing or Funding (Activity Vehicle I	t I/Type Award or ling Obligation L <u>Date</u>	Performing Activity EAC	Project Office <u>EAC</u>	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Buc	Budget to Complete	Total Program
SSCOM In-House Metric Systems TBD MICOM MIPR DA Staff	se TBD			15510	1437	972	959		Cont Cont Cont	Cont Cont Cont
Def Eval Spt Acty Army Nat'l Guard Support and Management Organizations	Organizations									i
SSCOM Test and Evaluation Organizations	izations			2135	255	185	185		Cont	Cont
SSCOM In-House Ft. Bragg MIPR TECOM/YPG	Se			5661	362	295	300		Cont	Cont
Government Furnished Property: None	perty: None									
Project D279			Page	Page 32 of 41 Pages	રેલ્ડ		Exhil	Exhibit R-3 (PE 0604804A)	4804A)	





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	OST BRE	AKDO	WN (R-3		DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment - Engineering Development	4D ΤΙΤΙΕ Logistiα ng Devel	cs & Engi	neer Equi	pment -		PROJECT D279
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	Total Prior to EY 1995 15510 2135 5661 23306	E <u>Y 1995</u> 1437 155 362 2054	FY 1996 972 185 295 1452	EY 1997 959 185 300 1444		Budget to Complete Cont'd Cont'd Cont'd Cont'd	Total Program Cont'd Cont'd Cont'd Cont'd Cont'd
Project D279 Page 33	Page 33 of 41 Pages			Exhib	Exhibit R-3 (PE 0604804A)	3604804A)	

II.	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION S	HEET (R	-2 Exhi	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering	вирдет астіміту 5 - Engineering and Manufacturing Developme	evelopm	ent	PE NU 060 Enç	PE NUMBER AND TITLE 0604804A Logis Engineering Dev	PE NUMBER AND TITLE 0604804A Logistics & Eng Engineering Development	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development	er Equip	ment -		РКОЈЕСТ D429
ö	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D429 SICPS Rigidwall Development	SICPS Rigidwall Shelter Engineering Development	4201	2791	3261	2386	1093	1240	1231		Continuing	Continuing
A. Mission Descripti	A. Mission Description and Budget Item Justification: Develops a series of rigid wall shelters (RWS) with added capabilities and enhanced survivability.	ition: Deve	ops a series	of rigid wall	shelters (R	WS) with ad	ded capabilit	ies and enha	nced surviv	ability.	
Acquisition Strategy	Acquisition Strategy: Developments transition to procurement funded through PM interchange requirements except SICPS procured through OPA2.	procurement	funded thro	ugh PM inte	rchange req	uirements ex	cept SICPS	procured thr	ough OPA2		
FY 1995 Accomplishments: • 195 Complements	hments: Completed testing for Non-Expandable EMI International Standards Organization (ISO) shelter and I	kpandable El		onal Standar	ds Organizat	ion (ISO) sh	elter and pre	pared all do	cumentatior	International Standards Organization (ISO) shelter and prepared all documentation for 2Q96 Milestone	ilestone
• 1343	Completed technical and operational testing of Version 3 Standard Integrated Command Post System (SICPS) which provides greater mission payload availability and improved control for the Army Tactical Command and Control systems.	rational testin	ig of Versio	n 3 Standard al Command	Integrated (Command Polystems	ost System (S	SICPS) whic	h provides g	greater missic	n payload
• 242	Completed all testing and documentation for Modular Extendible Rigid Wall Shelter (MERWS) Milestone III Decision in 2Q96. MERWS provides easily deployable, high quality space for medical, maintenance, command and control and other functions.	umentation	for Modular nedical, mai	Extendible Intenance, co	Rigid Wall S	helter (MEI control and	RWS) Miles other functio	tone III Dec	ision in 2Q9	96. MERWS	provides
• 395 • 937	Completed all testing of SICPS P31 Tent. Improvements enhance Chemical/Biological survivability, transportability and durability Conducted a special IPR and awarded a Limited Procurement contract for Chemical/Biological Protective Shelter (CBPS) which provides frontline	S P31 Tent. awarded a L	Improveme imited Proci	nts enhance urement cont	Chemical/Biract for Che	iological sur mical/Biolog	vivability, tra	ansportabilit	y and durab CBPS) whic	ility h provides fr	ontline
242	medical care in a Chem/Bio environment Conducted a design study for ISO P31 components which will provide better collective protection for a Chem/Bio Deployable Medical Systems	nvironment ISO P3I cor	nponents w	nich will pro	vide better c	ollective pro	tection for a	Chem/Bio I	Deployable I	- Vedical Syste	ms
	(DEPMEDS), and standardized environmental control and EMI protection for C3I users.	ed environm	ental contro	l and EMI pr	otection for	C3I users.	7			1 1 1 1 1 1 1 1 1	
. 741	Conducted a design study for figurweignt multipurpose shelter (LMS) Opgrade which will provide additional mission payload for the Enhanced Capacity Vehicle	ingneweign	mustipurpos	e sneiter (Lr	vis) Upgrade	s wnich will	provide add	itionai missi	on payload I	or the Ennar	Dec
909	Procured new technology components, split pack Environmental Control Unit (ECU) and rotary diesel engine generator, for objective SICPS. The objective SICPS will enhance mobility through the elimination of towed trailer and provide substantial increases in mission payload.	nponents, sp mobility the	lit pack Env	ironmental (imination of	Control Unit	(ECU) and r	otary diesel	engine gene increases in	rator, for ob	jective SICP	S. The
Total 4201			b			<u>.</u>					
Project D429				Page 34 o ₁	Page 34 of 41 Pages			Exhib	oit R-2 (PE	Exhibit R-2 (PE 0604804A)	
				984							





	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (DATE March 1996
BUDGET ACTIVITY 5 - Engineering	вирсет Астіvіт у 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604804A Logis Engineering Dev	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development	PROJECT D429
FY 1996 Planned Program: • 1152 Type C • 508 Begin to weight, • 292 Fabrica • 770 Fabrica • 62 SBIR/S • 7 Revised Total 2791	rogram: Type Classify version 3 SICPS RWS Begin test of new technology components (engine, generator, Environmental Control Unit (ECU), regenerative CB filters) for objective SICPS; lighter weight, quieter, less maintenance Fabricate ISO P31 components Fabricate Upgraded LMS prototypes SBIR/STTR Revised Economic Assumption not available for execution	or, Environmental	Control Unit (ECU), regenerative CB fi	ters) for objective SICPS; lighter
FY 1997 Planned Program:	rogram: Conduct Technical Testing of ISO P3I Components Complete testing for LMS upgrade Complete testing for new technology SICPS components Complete design and begin fabrication of Large SICPS P3I components (on-board power and collective protection Complete design and begin fabrication of Large sich shelter which is a quickly deployable shelter with high expansion ratios for multiple soldier sustainment functions (hospitals, kitchens, billeting, etc.)	components (on-l	oard power and collective protection syable shelter with high expansion ratios	for multiple soldier sustainment
B. Project Change Summary Previous President's Budget Requ Appropriated Amount (FY 1995) Adjustment to FY 1995 Adjustment to FY 1996 Adjustment to FY 1996 Adjustment to Budget Year (FY 1996) President's Budget	EY. st (FY 1996)	FY 1996 2870 2820 -29	F <u>Y 1997</u> 3377 -116	
Current President's Budget Submit Change Summary Explanation: A	Current President's Budget Submit Change Summary Explanation: Additional FY 95 funding (+ 696) reprogrammed due to increased costs for CBPS system	2/91 d due to increased	5261 costs for CBPS system	
Project D429	Page	Page 35 of 41 Pages	Exhibit	Exhibit R-2 (PE 0604804A)
		985		

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICAL	ION SE	IEET (R	-2 Exhib	it)		DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PENU 060 Eng	PE NUMBER AND TITLE 0604804A Logis Engineering Dev	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development	ջ Engine nent	er Equip		P. 0	PROJECT D429
C. Other Program Funding Summary Various Shelter Items which are customer funded to include ISO Shelters, ATCCS and MRWS. (Approx. \$20M per year) CB DOD, R12300, Chemical/Biological Protective System OPA2, BZ9962, SICPS	EY 1995	EY 1996	FY 1997 12269 24624	FY 1998 12369 24675	FY 1999 12115 22284	EY 2000 28896	FY 2001		To Compl	Total Cost
D. Schedule Profile Milestone III for non-expandable EMI ISO shelter Milestone III MERWS Conducted OT version 3 SICPS RWS TT of ISO EMI P31 components Milestone III version 3 SICPS RWS TT LMS Upgrade	FY 1995	4	_ × ×	FY 1996 X X 3 X X	4 -	FY 1997	ν ε 4 × ×			
Project D429			Page 36 of 41 Pages	41 Pages			Exhib	it R-2 (PE	Exhibit R-2 (PE 0604804A)	





RDT&E PROGRAM ELEMENT	AM ELE	EMENT/PRO	/PROJECT (SOST BE	REAKDO	COST BREAKDOWN (R-3)		DATE March 1996	966
вирсет Астіvіту 5 - Engineering and Manufacturing Development	cturing D	evelopment		PE NUMBER AND TITLE 0604804A Logis Engineering Dev	PE NUMBER AND TITLE 0604804A Logistics & Eng Engineering Development	ics & Eng	ਹ ਸਾ⊓E Logistics & Engineer Equipment ig Development	nent -	PROJECT D429
A. Project Cost Breakdown Primary Hardware Development Program Management Support Test and Evaluation Total			EY 1995 2021 900 1289 4201	FY	1996 1455 500 846 2791	EY 1997 1501 880 880 3261			
B. Budget Acquisition History and Planning Information	lanning Info	rmation							
Performing Organizations Contractor or Contract Government Method/Type A Performing or Funding C Activity Vehicle I	Award or Obligation Date	Performing Activity EAC	Project Office <u>EAC</u>	Total Prior to EY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	Total
SSCOM In-House DEEPCO Various	Various			11658	1002	1451	1501	Cont	t Cont
Radian GTS Ft. Belvoir MIPR TEXCOM									
ATCUM USA Med Ctr ARL Army Nat'l Guard Support and Management Organizations	ions	·		, 4651	006	500	088	Cont	t
Test and Evaluation Organizations				0669	1289	846	880	Cont	t Cont
Government Furnished Property: None	one								
Project D429			Page	Page 37 of 41 Pages	ies		Exhibit	Exhibit R-3 (PE 0604804A)	

RDT&E PROGRAM ELEMENT/PROJEC	ROJECT COST BREAKDOWN (R-3)	REAKDO	WN (R-3		DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604804A Logis Engineering Dev	PE NUMBER AND TITLE 0604804A Logistics & Eng Engineering Development	ics & Eng	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment - Engineering Development	oment -	<u>я</u> О	РРОЈЕСТ D429
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	Total Prior to EY 1995 11658 9651 6990 23299	EV 1995 2012 900 1289 4201	EY 1996 1451 500 846 2791	EY 1997 1501 880 880 3261		Budget to Cont Cont Cont Cont	Total Cont Cont Cont
Project D429	Page 38 of 41 Pages	Ses		Exhit	oit R-3 (PE	Exhibit R-3 (PE 0604804A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	ION S	HEET (R	≀-2 Exhil	bit)		DATE	March 1996	6
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	evelopm	ent	PENU 060 Enç	PE NUMBER AND TITLE 0604804A Logis Engineering Dev	PENUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development	& Engine ment	er Equip	oment -	a O	PROJECT D461
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D461 Marine Oriented Logistics Equipment Engineering Development	2025	339	0	0	2366	2200	1600		Continuing	Continuing Continuing
										1

Evaluation and Manual updates of the Lighter Amphibian Resupply Cargo -60 (LARC-LX) will nearly complete the development phase of this program. The FY 95 effort boats utilizing existing fleet assets. The FY 96 efforts for the Pusher Tug and Floating Crane will provide the engineering development necessary to meet the Operational This project provides engineering development of Army watercraft systems. The FY 95 effort for Test and requirements for these craft. The FY 96 effort will complete LARC-LX development phase. The FY 96 Communication, Electronic, and Navigation (CEN) will begin a for the Landing Craft Mechanized -8 (LCM-8) to Logistics Service Craft (LSC) conversion will demonstrate the feasibility of fulfilling the Army's requirement for CHI prototype. The FY 96 effort will complete Anchor Mooring and safety enhancements for the Causeway. A. Mission Description and Budget Item Justification:

Acquisition Strategy: Floating Crane -- Competitive Procurement to performance specification. Pusher Tug -- Competitive Procurement to performance specification

FY 1995 Accomplishments:

- Completed technical data package for Lighter Amphibian Resupply Cargo-60 Ton (LARC-LX)
 - 419 Completed nearly all test and evaluation of LARC-LX prototype
- 326 Completed LARC-LX manuals
- Initiated Prototype of the Landing Craft Mechanized (LCM-8) to logistics support craft (LSC) conversion (LSC formerly called "CHI Boat")
 - Completed new communications, electronics and navigation (CEN) suite development
- Total 2025

FY 1996 Planned Program:

- 45 Develop optimum "pusher knee" configuration for the pusher tug
- Develop the design and storage of camel for interface between floating crane and cargo ships
- 58 Complete Mooring, Anchor, and safety enhancements for Causeway
- Begin prototype effort of Communications, Electronics, and Navigation suite for watercraft
 - 45 Complete test and evaluation of LARC-LX prototype
 - 8 SBIR/STTR
- 2 Revised Economic Assumption not available for execution
- 33

Project D461

686

Page 39 of 41 Pages

RDT&E BUDGET ITEM JUST		FICATION SHEET (R-2 Exhibit)	2-2 Exhik	žŧ)	DATE	IE March 1996	1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developmen	‡	PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development	TITLE Logistics y Develop	& Engine ment	er Equipme	ant -	PROJECT D461	ест 1
FY 1997 Planned Program: None								
B. Project Change Summary Previous President's Budget Request (FY 1996) Appropriated Amount (FY 1995)	FY 1995 2794 2735	FY 1996 348	FY 1997					
Adjustment to FY 1995 Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustment to Budget Year (FY 1997) since FY 1996	-710	342 -3						
Current President's Budget Submit	2025	339						
Change Summary Explanation: FY 95 funds (-715) were reprogrammed to other Army priority PEs and projects due to decreased costs for this project.	mmed to othe	r Army priority PE	and projects	due to decrea	sed costs for th	is project.		
C. Other Program Funding Summary	EV 1006	EV 1007 EV 1009	1000	2000	EV 2001		To	Total
OPA3, M32400, Floating Crane OPA3, M44500, Pusher Tug, Small				14112	14011	Id III	-	70852
OPA3, MA0900, LARC-60 SLEP				6547	6501			13048
D. Schedule Profile FY 1995	4	FY 1996	4	FY 1997	7.			
4	* *		•	1				
Pusher I ug contract award Pusher Tug material release		~			×			
Floating Crane milestone I/III Floating Crane contract award			×		×			
Project D461	Pa	Page 40 of 41 Pages			Exhibit R	Exhibit R-2 (PE 0604804A)	4A)	





RDT&E PROGRAM ELEMENT/PROJEC	PROJECT COST BREAKDOWN (R-3)	REAKDO	WN (R-	3) DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604804A Logis Engineering De	e number and title 0604804A Logistics & Eng Engineering Development	ics & Eng lopment	PENUMBER AND TITLE 0604804A Logistics & Engineer Equipment Engineering Development		РКОЈЕСТ D461
A. Project Cost Breakdown Contractor Engineering Support (includes test & evaluation) 1967 Program Management Support 58		FY 1996 309 30 339	FY 1997			
B. Budget Acquisition History and Planning Information Performing Organizations Contractor or Contract Government Method/Type Award or Performing Project Performing or Funding Obligation Activity Office Activity Vehicle Date EAC EAC	Total Prior to FY 1995	FY 1995	FY 1996	F <u>Y 1997</u>	Budget to Complete	Total Program
Product Development Organizations International SS-FP Consultants, Inc. Support and Management Organizations ATCOM Test and Evaluation Organizations - None		1967	309			2277
Government Furnished Property: None Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project		1967 58 2025	309 30 339			2290
Project D461	Page 41 of 41 Pages	ıges		Exhibit R-3	Exhibit R-3 (PE 0604804A)	

	RDT&E BUDGET ITEM JUST	EM JUS	TIFICA	FION S	HEET (R	IFICATION SHEET (R-2 Exhibit)	bit)		DATE	March 1006	
800G	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PE NE 060	PE NUMBER AND TITLE 0604805A Com Svstems - Engin	PE NUMBER AND TITLE 0604805A Command, Control, Communications Systems - Fngineering Development	I, Contro	I, Comm	unication	IS IS	
	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
	Total Program Element (PE) Cost	11751	13063	9796	2716	2693	0	0		Continuing	Continuing
D097	D097 C3I Interoperability Network Activity	1807	1734	1715	1704	1684	0	0		0	10478
D098	D098 Tactical Radio Accessories	0	189	569	531	529	0	0		1060	4811
D282	D282 SINCGARS-V Engineering Development	4139	7191	7031	0	0	0	0		0	20073
D485	D485 C4I Interoperability Standardization and Certification	826	484	481	481	480	0	0		0	2752
D488	D488 Tactical Net Radio Communications	4979	3465	0	0	0	0	0		Continuing	Continuing

and maintain interoperability, and support an interoperability development and evaluation process consisting of an Army interoperability board and technical management to identified in the SINCGARS System Improvement Plan; the Frequency Hopping Multiplexer (FH MUX) which allows multiple radios to operate on one antenna for reduced intelligence (C31) systems and equipment, and the supporting interoperability facilities. Also included is engineering development of life-cycle capability to develop, test, ensure maximum horizontal and vertical integration for Army battlefield digitization. Also included is the Army portion of engineering development efforts in support of Network Planning and Management and initiatives to establish a Multiband Radio Integrated testbed. The projects in this Program Element support research efforts in the visual signature and rapid transportability and set-up; and follow-on programs to demonstrated technologies evolving from Wireless Network Access, Communications Mission Description and Budget Item Justification: Supports the Army Enterprise Strategy to achieve interoperability within the Army and with the Joint/Combined the Combat Survivor Evader Locator System (CSEL). This includes the Single Channel Ground and Airborne Radio System (SINCGARS) product improvements forces. This program includes Engineering and Manufacturing Development (EMD), interoperability evaluation of Army command, control, communications and engineering and manufacturing development phases of the acquisition process and are therefore correctly placed in Budget Activity 5.

Page 1 of 18 Pages 992





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION SI	JEET (R	k-2 Exhi	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development)evelopm	ent	PE N 060 Sys	PE NUMBER AND TITLE 0604805A Com! Systems - Engir	PE NUMBER AND TITLE 0604805A Command, Control, Communications Systems - Engineering Development	I, Contro ng Devel	I, Comm opment	unicatio		РКОЈЕСТ D097
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D097 C3I Interoperability Network Activity	1807	1734	1715	1704	1684	0	0		0	10478

C4I systems and test evaluation facilities. The AIN, is a nationwide network "linking the world of C4I" through virtual relocation of remote C3I/EW systems, labs/testbeds, field sites and Battle Labs. Together, the AIN and Digital Integrated Lab (DIL) support affordable continuous sustainment and modernization of Army C4I/EW systems for command, control, communications, computers and intelligence elements whether "stand alone" or embedded within a weapons platform has been endorsed by senior OSD and DA officials. This suite of distributed communication sites and services (Army Interoperability Network - AIN), provides the communications infrastructure capability Demonstrations, Advanced Warfighting Experiments, realistic evaluations of new tactics, doctrine, operational concepts, and the interoperability certifier role for the Army A. Mission Description and Budget Item Justification: Project D097 - C3I Interoperability Network Activity: The ability to electronically link geographically dispersed to develop, test, and maintain interoperability and support a continuous life-cycle interoperability development and evaluation process through remote access to the actual the warfighter and Force XXI modernization, enabling CECOM RDEC to engineer solutions replicating digital battlefield environments to support Advanced Technology digitization effort.

Acquisition Strategy: The efforts funded in this project are non-system specific, therefore no acquisition strategy is provided.

FY 1995 Accomplishments:

•	609	609 Provided over 2500 test-days of testing support for PEOs, Pms, Battle Labs, DIL, etc. to achieve systems Army/Joint interoperability C41
		certification testing and DOD policy
•	281	Essential AIN/DIL infrastructure modernization (fiber optics, ATM switching, wideband diphase interfaces)
•	428	Developed/installed new remote sites (TRW/Applique, SRI. Ft Leavenworth BCBL. DIL)
•	344	Sustained nationwide network operations
•	115	Developed evolutionary test support capabilities required to support Task Force XXI (SINCGARS SIP, EPLRS and COMSEC interfaces)
•	30 I	Developed Rapid deployment AIN video teleconferencing (VTC) communications package for remote sites.
Total	1807	

FY 1996 Planned Program:

0 Enhance AIN Block-1 capabilities (portable LOS/satellite/VTC nodes) to support Task Force initiatives/sites.	559 Provide support for Task Force XXI to achieve systems Army/Joint interoperability C4I certification testing and DOD policy objectives	
31	55	•

Essential AIN/DIL infrastructure modernization (network design tool, network display). 117

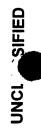
Page 2 of 18 Pages

Project D097

	RDT&E BUDGET ITEM JUSTIFICATION	ON SHEET (IFICATION SHEET (R-2 Exhibit)	TE March 1006
BUDGET ACTIVITY 5 - Engineering	uring Developme	PE NUMBER AND TITLE 0604805A COMI Systems - Engir	PE NUMBER AND TITLE 0604805A Command, Control, Communications Systems - Engineering Development	PROJECT PROJECT CALIONS D097
FY 1996 Planned F 254 350 100 Total 1734	FY 1996 Planned Program: (continued) 254 Develop/ install new remote sites 350 Sustain nationwide network operations 100 Develop evolutionary test support capabilities required to support DIL, Task Force XXI & user interfaces 39 SBIR/STTR 5 Revised Economic Assumption - Not Available for execution Total 1734	support DIL, Task tion	Force XXI & user interfaces	
FY 1997 Planned Program:	Enhance AIN protocol test capabilities to support Force XXI requirements Provide support for Task Force XXI to achieve systems Army/Joint interoperability C4I certification testing and DOD policy objectives Essential AIN/DIL infrastructure modernization Provide compliance and interoperability testing support for Force XXI and Force XXI system implementations Sustain nationwide network operations Develop evolutionary test support capabilities required to support DIL, Task Force XXI & user interfaces	XI requirements rmy/Joint interoper or Force XXI and F support DIL, Task	ability C4I certification testing and DOD proce XXI system implementations Force XXI & user interfaces	oolicy objectives
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustments to FY 1995	Summary FY 1995 Budget (FY 1995) 1834 nt (FY 1995) 1811 1995 -4	FY 1996 1782	FY 1997 1776	
Appropriated Amount (FY 1996) Adjustments to FY 1996 Adjustment to Budget Year (FY 1871996 FY 1996 President's Budget	Appropriated Amount (FY 1996) Adjustments to FY 1996 Adjustment to Budget Year (FY 1997) since FY 1996 President's Budget	1751 -17	-61	
Current President's Budget Submit C. Other Program Funding Sumr	nary: There are no other relate	1807 1734 1 cd RDT&E or other appropriation efforts.	1715 1 efforts.	
D. Schedule Profile	D. Schedule Profile: The efforts funded in this project are non-system specific,	; therefore no mile:	stem specific, therefore no milestones are provided.	

Project D097

Page 3 of 18 Pages 994





	/PROJECT COST BREAKDOWN (K-3)	JOWN (R-3)	March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604805A Com Systems - Engir	PE NUMBER AND TITLE 0604805A Command, Control, Communications Systems - Engineering Development	unications	РРОЈЕСТ D097
A. Project Cost BreakdownFY 1995Contractual Engineering Support1004Government Engineering Support480Development Test and Evaluation12Training12Travel30Total1807	1995 FY 1996 1004 1048 480 350 281 300 12 10 30 26 1807 1734	FY 1997 1170 350 150 10 35 1715		
B. Budget Acquisition History and Planning Information: N/A				
Project D097	Page 4 of 18 Pages	Exhii	Exhibit R-3 (PE 0604805A)	(A)

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA.	TION SI	HEET (R	TIFICATION SHEET (R-2 Exhibit)	bit)		DATE M	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PE N 060 SV8	PE NUMBER AND TITLE 0604805A Com Systems - Engir	PE NUMBER AND TITLE 0604805A Command, Control, Communications Systems - Engineering Development	d, Contro	I, Commonent	unication		РРОЈЕСТ D098
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D098 Tactical Radio Accessories	0	189	569	531	529	0	0		1060	4811

A. Mission Description and Budget Item Justification: Project D098 - Tactical Radio Accessories: In FY 96, this project will provide for development efforts for the system will include the capability to pass data directly into the standard warfighter command, control, communications, computer, and intelligence (C41) systems envisioned by the C4I for the Warrior Concept. The user's equipment will consist of a small hand-held unit used for geopositioning, Over the Horizon data communications, and tworescue forces with the capability to pinpoint the location of and establish communication with downed personnel in need of extraction from hostile territories. The CSEL Combat Survivor Evader Locator System (CSEL), a joint program led by the Air Force. This program will provide service, joint, and/or composite operational recovery way Line of Sight voice communications.

Acquisition Strategy: The joint Air Force led acquisition strategy is to pursue a modified Non-Developmental Item (NDI) approach for the hand-held unit and award a production contract beginning in FY 99.

FY 1995 Accomplishments: No planned Program.

FY 1996 Planned Program:

189 Support Air Force development efforts on the CSEL program

Total 189

FY 1997 Planned Program:

Support Air Force development efforts on the CSEL program 569

Total 5

Project D098

Page 5 of 18 Pages



RDT&E BUDGET ITEM JUSTI	FICATION	TIFICATION SHEET (R-2 Exhibit)	2-2 Exhit	oit)	DATE March 1996	1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ıt	PE NUMBER AND TITLE 0604805A COM! Systems - Engir	ππ∟Ε Sommand Ingineerin	PE NUMBER AND TITLE 0604805A Command, Control, Communications Systems - Engineering Development	nunications	PROJECT D098	ت س
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995)	FY 1995 0	FY 1996 195	FY 1997 597				
Adjustments to FY 1995 Appropriated Amount (FY 1996) Adjustments to FY 1996 Adjustment to Budget Year (FY 1997) since		191 -2					
FY 1996 President's Budget Current President's Budget Submit	0	189	-28 569				
Change Summary Explanations: Funding: FY 96 - (-2) the portion of this program that has been proposed for rescission. FY97 - (28) is due to revised inflation rates	proposed for res	scission.					
C. Other Program Funding Summary			1000				Total
	FX 1990 FX	FX 1997 FX 1998 5736	14229 14229	EX 2000 EX 2001 32457 29137			Cost 81559
D. Schedule Profile FY 1995	-	FY 1996	-	FY 1997			
CSEL Program, Milestone I CSEL Program Milestone II	.	° ××	1	, ,			
Project D098	Page	Page 6 of 18 Pages		Exhi	Exhibit R-2 (PE 0604805A)	(PS)	

JT&E PROGRAM ELEMENT/P	ROJECT C	COST BREAKDOWN (R-3)	DOWN (R-	3) DATE	те March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604805A Command, Control, Comn Systems - Engineering Development	E nmand, Con ineering Dev	Σπιε Command, Control, Communications Engineering Development	ications	РRОЈЕСТ D098
A. Project Cost Breakdown Contractor Engineering Total	FY 1995 0	EY 1996 189 189	FY 1997 569 569			
B. Budget Acquisition History and Planing Information						
Performing Organizations Contract Government Method Type Award or Performing Performing or Funding Obligation Activity Activity Vehicle Date EAC	Project Office EAC	Total Prior to EY 1995 FY 1995	5 EY 1996	FY 1997	Budget to Complete	o Total e <u>Program</u>
Product Development Organizations TBD CPFF/FFP Feb 96 TBD Support and Management Organizations: None Test and Evaluation Organizations: None	TBD	2993	189	569	1060	0 4811
Government Furnished Property: N/A						
Subtotal Product Development Subtotal Support and Management		2993	189	569	1060	0 4811
Subtotal Test and Evaluation Total Project		2993	189	569	1060	0 4811
Project D098	Page	Page 7 of 18 Pages		Exhibit R	Exhibit R-3 (PE 0604805A)	â





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA.	TION S	JEET (R	-2 Exhi	bit)		DATE M €	March 1996	9
вирсет Астилту 5 - Engineering and Manufacturing Developm)evelopm	ent	PE NI 060 Sys	PE NUMBER AND TITLE 0604805A Command, Control, Comn Systems - Engineering Development	⊓⊓∟E Sommanc ngineerit	d, Contro ng Devel	I, Comm opment	FENUMBER AND TITLE 0604805A Command, Control, Communications Systems - Engineering Development		PROJECT D282
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D282 SINCGARS-V Engineering Development	4139	7191	7031	0	0	0	0		0	20073

implementation of overall product improvements to the SINCGARS Combat Net Radio. Product improvements included are Global Positioning System (GPS) interfaces Airborne Battlefield Combat Identification System (BCIS), Forward Error Correction (FEC) (data transmission enhancement techniques), improved data capability, weight reduction (to include a Lightweight Receiver-Transmitter, Battery Box and Vehicular Appliqué), MANPRINT (ease of operations), vehicular system re-engineering, A. Mission Description and Budget Item Justification: Project D282 - SINCGARS-V Engineering Development: This program provides for analysis and improved electronic counter-counter measure (ECCM) performance and switched system dial up interfacing. Program provides simplified operations, improved performance of existing capabilities, new operational capabilities and reduced life cycle costs.

Acquisition Strategy: The Lightweight Receiver-Transmitter and associated items planned development design products will be used by competitive producers as a part of the anticipated FY97 production competition of the SINCGARS radio and support TFXXI initiative.

FY 1995 Planned Program:

- Initiated design feasibility study for an ITT SINCGARS Lightweight radio as part of the planned SINCGARS program
- Initiated design feasibility study for a General Dynamics (GD) SINCGARS Lightweight radio as part of the planned SIP program
 - 2135 SIP Engineering Support
- 1200 Initiated development of the BCIS (1204)
 - 204 Program Management Support
 - Total 4139

FY 1996 Planned Program:

- 156 Airborne BCIS Demonstration
- 3000 Initiate development effort for ITT SIP Half Size Radio
- 3000 Initiate development effort for GD SIP Half Size Radio
 - 60 Program Management Support
 - 795 TFXXI Support
 - 160 SBIR/STTR
- 20 Revised Economic Assumption Not Available for execution
 - tal 7191

Project D282

Page 8 of 18 Pages

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ICATION S	HEET (R	-2 Exhibi	t)	DATE	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE N 06 Sy	PE NUMBER AND TITLE 0604805A COM Systems - Engir	пге ommand, (ngineering	PE NUMBER AND TITLE 0604805A Command, Control, Comn Systems - Engineering Development	nunicatio	PROJECT D282
 FY 1997 Planned Program: 3250 Complete development effort for ITT SIP halfsize radio 3250 Complete development effort for GD SIP halfsize radio 531 Complete design verification testing/demonstrations for both ITT and GD halfsize radios 	ze radio ze radio ions for both ITT	and GD halfs	ize radios			
(1996)	FY 1995 E7 4439 4439 -300	<u>FY 1996</u> 7393	FY 1997 7280			
Appropriated Amount (FY 1996) Adjustments to FY 1996 Adjustment to Budget Year (FY 1997) since		7264 -73	-249			
Current President's Budget Submit	4139	7191	7031			
Change Summary Explanation: FY 1995 - Funds reprogrammed to D488. FY 1996 - (-73) the portion of this program that has been proposed for rescission. FY 1997 - (-249) due to revised inflation rates	to D488. is program that has be inflation rates	een proposed f	or rescission.			
C. Other Program Funding Summary FY 1995 FY	FY 1996 FY 1997	FY 1998	FV 1999 F	FY 2000 FY 2001		L
] m	•		•			cont cont
Project D282	Page 9 of	Page 9 of 18 Pages		Ш	Exhibit R-2 (PE 0604805A)	305A)

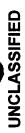




RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TEM JUSTIFICAT	ION SHEET	(R-2 Ex	chibit)			DATE March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Development	PE NUMBER AND TITLE 0604805A Command, Control, Communications Systems - Engineering Development	O TITLE Commi	and, C ering [ontrol, C Jevelopi	ommu ment	nications	PROJECT D282
D. Schedule Profile	FY 1995	FY 1996	\ \	-	FY 1997	7		
ECP Cut In to Ground Production Award Airbome SIP Development Contract Complete Design Feasibility Study on Lightweight Radio Award Downsize Development Contracts ECP Cut In to Airbome Production Exercise Downsize Development Contract Option * Milestone completed.	*	· × · · · · · · · · · · · · · · · · · ·		- ×		•		
Project D282		Page 10 of 18 Pages		İ		Exhibit	Exhibit R-2 (PE 0604805A)	A)

RDT&E	- PROG	RAM ELE	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	SUECT C	OST BF	REAKDO	WN (R-	<u>8</u>	DATE March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	nd Manuf	acturing D	evelopment		PE NUMBER AND TITLE 0604805A Com Systems - Engir	AND TITLE A Comm	nand, Con	PE NUMBER AND TITLE 0604805A Command, Control, Communications Systems - Engineering Development	unications	PROJECT D282
A. Project Cost Breakdown Contractor Engineering Development Test & Evaluation Total	lown aluation			FY 1995 4139 0 4139	EY 1996 6426 765 7191	1996 6426 765 7191	FY 1997 6500 531 7031			
B. Budget Acquisition History and Planning Information	History and	Planning Info	yrmation							
Organiz	ons									
Government Me	Connact Method/Type or Funding	Award or Obligation	Performing Activity	Project Office	Total Prior to				Budget to	to Total
Activity Vehicle	Vehicle	Date	EAC	EAC	FY 1995	FY 1995	FY 1996	FY 1997	Complete	Pro
ITT Ft. Wayne, IN SS	SS/CPFF	oct 94	3997	3997	1686	2135	156	0		0 3977
	SS/CPFF	Dec 94	6550	6550	0	300	3000	3250		
III Ft. Wayne, IN SS	SS/CPFF	Jan 95	7750	7750	0	1500	3000	3250		0 7750
Support and Management Organizations: Misc TBD Dec 9	ement Organiza TBD	ations: Dec 94	474	474	0	204	270	0		0 474
Test and Evaluation Organizations	rganizations									
White Sands, NM MI EPG, MD	MIPR	Nov 94 Jan 96	26	26 1326	26	00	0	0		0 26
ent Furnish	l Property :h	1/A			•	•	3	5		
Subtotal Product Development	pment				1686	3935	6156	0059		18277
Subtotal Test and Evaluation Total Project	ation				26	204	765	531		1322
										2
Project D282				Page	Page 11 of 18 Pages	ies		Exhib	Exhibit R-3 (PE 0604805A)	jA)





יב	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICAT	HS NOL	IEET (R	-2 Exhil	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering	вирдет астіvіту 5 - Engineering and Manufacturing Development	evelopm	ent	PE NU 060 , Sys.	PE NUMBER AND TITLE 0604805A Com Systems - Engir	PE NUMBER AND TITLE 0604805A Command, Control, Comn Systems - Engineering Development	l, Contro ng Devek	I, Common	PE NUMBER AND TITLE 0604805A Command, Control, Communications Systems - Engineering Development		РРОЈЕСТ D485
33	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D485 C4I Interoperabili Certification	C4I Interoperability Standardization and Certification	826	484	481	481	480	0	0		0	2752
A. Mission Descripti 4630.8, C4I for the W. Joint/Allied C4I comn configuration manages interoperability standa interface documents. Joint/Allied Configura	A. Mission Description and Budget Item Justification C4I Interoperability Standardization and Certification: The Army Enterprise Strategy, DOD 4630.5, DOD 4630.8, C4I for the Warrior, and CJSCI 6212.01, mandate the establishment and sustainment of interoperability between Army C4I systems, and within the Army and Joint/Allied C4I communities. This includes operation of the Army board to synergize and integrate the Army's interoperability certification testing and analysis, and configuration management functions. Provide the Army focal point for the review, staffing, coordination and development of Army positions for the interface interoperability standards and specifications. Direct the integration of the Army systems' requirements and operational concepts documents with the joint standards and interface documents. Included is the Army's participation in Joint/Allied and intra-Army interoperability certification testing and the Army's representation in the Joint/Allied Configuration Management Process.	Ition C4I Int ndate the est on of the Arr rmy focal po the integratic vation in Join	eroperabilit ablishment a ny board to s int for the re nn of the Arn t/Allied and	iy Standard nd sustainm synergize an view, staffin ny systems' intra-Army	ization and ent of intero d integrate tig, coordinat requirement interoperabi	Certification perability be he Army's in tion and dewis and operatility certifical	on: The Arm stween Arm; nteroperabili elopment of ional conception testing	ny Enterpris y C4I system (ty certificati Army positi yts documen and the Arm	iteroperability Standardization and Certification: The Army Enterprise Strategy, DOD 4630.5, DODI stablishment and sustainment of interoperability between Army C4I systems, and within the Army and my board to synergize and integrate the Army's interoperability certification testing and analysis, and oint for the review, staffing, coordination and development of Army positions for the interface ion of the Army systems' requirements and operational concepts documents with the joint standards and int/Allied and intra-Army interoperability certification testing and the Army's representation in the	OOD 4630.5, in the Army and analysis, anterface oint standard station in the	DODI and and s and
Acquisition Strategy:	Acquisition Strategy: The efforts funded within this project are		non-system specific, therefore no Acquisition Strategy is provided.	pecific, ther	efore no Ac	quisition Str	ategy is prov	vided.			
FY 1995 Accomplishments: • 626 Prepare Messag • 200 Continu	nments: Prepared, coordinated, evaluated, process Message Text Format (USMTF) message Continued to implement Army Five Year	ted, processe F) message s y Five Year I	ed and approved interface change proposals (ICPs) for Tactical Digital Information L standards through formal Army & Joint/Allied configuration management processes. Interoperability Assurance Plan (FYIAP) to manage Army Interoperability testing re-	ved interface ough formal ity Assuranc	change pro Army & Jo	posals (ICPs int/Allied co AP) to mana) for Tactice infiguration i ge Army Int	al Digital Inf managemen eroperabilit	ed and approved interface change proposals (ICPs) for Tactical Digital Information Link (TADIL) and U.S. standards through formal Army & Joint/Allied configuration management processes. Interoperability Assurance Plan (FYIAP) to manage Army Interoperability testing requirements	nk (TADIL) uirements	and U.S.
FY 1996 Planned Program:	ogram: Continuation of Army /Joint Certification Testing Staff, consolidate, and formulate Army Interface change proposals for Variable Message Format (VMF), TADIL, and USMTF Review certification test results and represent the Army at joint test meetings SBIR/STTR Revised economic assumption - not available for execution	Certification ate Army Int ts and repres	n Testing nerface change proposals for Variab ssent the Army at joint test meetings able for execution	e proposals y at joint test tion	for Variable t meetings	Message Fc	ormat (VMF), TADIL, a	nd USMTF		

Page 12 of 18 Pages

Project D485

RDT&E BUDGET ITEM JUSTIFICATION	FIFICATION SHEET (R-2 Exhibit)	-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604805A Com Systems - Engir	PE NUMBER AND TITLE 0604805A Command, Control, Communications Systems - Engineering Development	PROJECT DASS DASS
 FY 1997 Planned Program: 120 Continuation of Army certification testing 200 Staff, consolidate, and formulate Army Interface change proposals for VMF, TADIL, and USMTF 161 Review certification test results and represent the Army at joint test meetings Total 481 	posals for VMF, T	ADIL, and USMTF	
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) 76	FY 1996 498	FY 1997 498	
Adjustments to FY 1995 Appropriated Amount (FY 1996) Adjustments to FY 1996 Adjustment to Budget Year (FY 1997) since	489	498	
FY 1996 President's Budget Submit 826	484	481	
Change Summary Explanation: FY 1995 - Funding: Increase (+750K) to support Interface Change Proposals fo FY 1996 - (-5) the portion of this program that has been proposed for rescission. FY 1997 - (-17) due to revised inflation rates.	ce Change Propos proposed for resci	to support Interface Change Proposals for TADIL and USMTF message standards and certification testing. ram that has been proposed for rescission. n rates.	standards and certification testing.
C. Other Program Funding: There are no other related RDT&E or other Appropriation efforts. D. Schedule Profile: The efforts funded are non-system specific, therefore no Milestones are provided.	priation efforts. Ilestones are provi	ded.	

Project D485

Page 13 of 18 Pages





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ECT CO	ST BREAKE	OWN (R-3)	DATE March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE 1 06 Sy	PE NUMBER AND TITLE 0604805A Com Systems - Engir	PE NUMBER AND TITLE 0604805A Command, Control, Communications Systems - Engineering Development	unications	PROJECT D485
A. Project Cost Breakdown Government Engineering Total	FY 1995 826 826	FY 1996 484 484	FY 1997 481 481		
B. Budget Acquisition History and Planning Information: N/A					
Project D485	Page 14 o	Page 14 of 18 Pages	Exhibi	Exhibit R-3 (PE 0604805A)	5A)

RDT&E BUDGET ITEM JUST	EM JUS	TIFICAL	TION SE	HEET (R	FIFICATION SHEET (R-2 Exhibit)	oit)		DAIE Ma	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PE NU 060 Sys	PE NUMBER AND TITLE 0604805A Com! Systems - Engir	PENUMBER AND TITLE 0604805A Command, Control, Comn Systems - Engineering Development	l, Contro ng Develo	l, Commi opment	PENUMBER AND TITLE O604805A Command, Control, Communications Systems - Engineering Development		PROJECT D488
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D488 Tactical Net Radio Communications	4979	3465	0	0	0	0	0		Continuing Continuing	Continuing

computers and transmission security for tactical operations. Provide for executive agent and requirements for test and evaluation of the Joint Task Force Comm Planning A. Mission Description and Budget Item Justification: Tactical Net Radio Communications: Develops the Frequency Hopping Multiplexer which allows multiple radios to operate on one antenna for reduced visual signature and rapid transportability and set-up. Performs procedural interoperability testing and provides the Army's gateway to interoperability test network for certification of Army C3I systems. Develops Wireless Network Access (WNA) to provide Comm interface to CHS host and Management System.

initiated. Applications for antenna technology will focus on developing wideband HF and VHF antennas which are structurally embedded in the airborne or ground mobile In FY 96, Frequency Hopping Multiplexer (FH MUX) preproduction hardware fabrication will be finalized with emphasis on models and qualification testing. In platform. Future Data Radio (FDR/Near-Term Digital Radio (NTDR) will be added into the Digital Integrated Lab (DIL) network, for demonstration and experimentation focus on communication systems engineering of tactical radios to mitigate platform interference and provide for maximum communication ranges. The CECOM Mobile support of Task Force XXI (TFXXI) analyses will be performed to mitigate cosite interference amongst various radios and frequency allocations assigned. Support will Test Van will be upgraded to provide for integration of evolving technologies. Efforts to establish an EMI/EMC cosite testbed and audio technology facility will be purposes

Acquisition Strategy: The acquisition strategy for the FH MUX is to award a sole source contract for up to 50 FH MUX Pre-Production Qualification Test (PPQT) model units to Xetron Corporation, Cincinnati, OH, the current developer of the FHMUX. This contract is an essential preparatory phase to the planned full rate production contract scheduled for 3QFY96 and will provide substantial reduction in production risk.

FY 1995 Accomplishments:

- Completed pilot (pre-production) model fabrication
 - Conducted operational test on the FHMUX
- Conducted design review
- Total

FY 1996 Planned Program:

- FH MUX Preproduction Hardware Fabrication
- Program Management, design review, test & evaluation, data support for Pre-production Qualification Testing (PPQT) for the FHMUX 552 648

Project D488

Page 15 of 18 Pages





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET (R-2 Exhibit)	DATE March 1996	
вирсет астіvіту 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604805A Com Systems - Engir	PE NUMBER AND TITLE 0604805A Command, Control, Communications Systems - Engineering Development	nunicatic	
 FY 1996 Planned Program: (continued) 420 Develop application of land and airborne structurally embedded an 704 Integration of FDR to NTDR into DIL 100 Initiate audio lab upgrade 370 Initiate Co-site EMI/EMC testbed 100 Mobile test van upgrades & equipment integration 220 Tactical Radio integration support to TEXXI 200 Frequency allocation & cosite analysis support to Task Force XXI 70 Enhanced testing of interference cancellation technologies at EPG 72 SBIR/STTR 9 Revised economic assumption - not available for execution Total 3465 	structurally embedded antennas tegration CXI pport to Task Force XXI tion technologies at EPG able for execution		,	
FY 1997 Planned Program: No funding in FY 1997.				
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustments to FY 1996 Adjustments to FY 1996 Adjustment to Budget Year (FY 1997) since FY 1996 President's Budget Current President's Budget Submit Change Summary Explanation: FY 1996 - (-36) the portion of this program that has been proposed f FY 1996 - (-36) the portion of this program that has been priority efforts.	FY 1995 4679 300 3501 -36 4979 3465 tom D282. that has been proposed for rescission. or higher priority efforts.	EY 1997 3691 -3691 0		
Project D488	Page 16 of 18 Pages	Exhi	Exhibit R-2 (PE 0604805A)	
	1007			

RDT&E BUDGET ITEM JUST	EM JUS	LIFICA	FICATION SHEET (R-2 Exhibit)	EET (R	2 Exhib	≘		DATE Marc	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopme	ent .	PE NUI 0604 Syst	PE NUMBER AND TITLE 0604805A COM Systems - Engir	PE NUMBER AND TITLE 0604805A Command, Control, Comn Systems - Engineering Development	Control g Develo	, Commo	PE NUMBER AND TITLE 0604805A Command, Control, Communications Systems - Engineering Development	PROJEC D488	PROJECT D488
C. Other Program Funding Summary OPA2, SSN BA1205	EY 1995 0	FY 1996 24803	EX 1997 35743	EY 1998 0	FY 1999 0	FY 2000 0	FY 2001		To Compl 0	Total Cost 84701
D. Schedule Profile	FY 1995	4	1 F3	FY 1996	4	FY 1997	7 4			
FHMUX OT Complete FHMUX J&A Approved FHMUX AP Approved Milestone III - FHMUX FHMUX Production Award Delivery FHMUX PPQ Units	* **	^		× ×	,					
Project D488			Page 17 of 18 Pages	18 Pages			Exhib	Exhibit R-2 (PE 0604805A)	1805A)	





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ECT COST	BREAKE	OOWN (R-3)	DATE March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUM 06048 Syste	PE NUMBER AND TITLE 0604805A Com Systems - Engir	PE NUMBER AND TITLE 0604805A Command, Control, Communications Systems - Engineering Development	nunications	РRОЈЕСТ D488
A. Project Cost Breakdown Contractor Engineering Support Development Test and Evaluation Government Engineering Support Miscellaneous Total B. Budget Acquisition History and Planning Information: Not Applicable	995 734 150 95 979	EX 1996 1200 648 1596 21 3465	FY 1997		
Project D488	Page 18 of 18 Pages	8 Pages	Ext	Exhibit R-3 (PE 0604805A)	05A)

	RDT&E BUDGET ITEM JUST	SUL ME		TION SI	HEET (R	IIFICATION SHEET (R-2 Exhibit)	bit)		DATE	March 1996	8
8UDG 5 - E	BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	evelopm	ent	PE NU 060 Def	PE NUMBER AND TITLE 0604807A Medi Defense Equipn	PE NUMBER AND TITLE 0604807A Medical Materiel/Medical Biological Defense Equipment - Engineering Developmer	ateriel/M Enginee	ledical B	PE NUMBER AND TITLE 0604807A Medical Materiel/Medical Biological Defense Equipment - Engineering Development	1	
	COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
	Total Program Element (PE) Cost	12458	4608	4794	4996	5098	6411	6361	0	Continuing	Continuing
D812	Military Human Immunodeficiency Virus (HIV) Vaccine and Drug-Engineering Development	6219	193	193	288	288	1910	1894		Continuing	Continuing
D832	Combat Medical Materiel-Engineering Development	1372	1546	1695	1736	1852	1825	1810		Continuing	Continuing
D834	Soldier System Protection-Engineering Development	0	876	884	919	927	914	806		Continuing	Continuing
D848	D848 Medical Chemical Defense Life Support Materiel *	876	0	0	0	0	0	0		0	1126
D849	D849 Infectious Disease Drug and Vaccine-Engineering Development	3991	1993	2022	2053	2031	1762	1749		Continuing	Continuing
* Star	* Starting in FY 1996, funding has been consolidated into DOD PE 0605384BP in accordance with P.L. 103-160	into DOD	PE 0605384	BP in accord	lance with P	L. 103-160					

Mission Description and Budget Item Justification: This engineering and manufacturing development program funds improved medical equipment and drugs essential to

counteracting lethal and human performance degrading effects of chemical threats, infectious diseases and medical equipment essential to meeting medical requirements on against physiological, psychological or environmental factors which degrade physical performance. This includes engineering development of vision corrective devices for protective masks. This program is primarily managed by the U.S. Army Medical Research and Materiel Command. The projects in this Program Element support research development of vaccines, prophylactic and therapeutic drugs, resuscitation fluids and drug products for Acquired Immune Deficiency Syndrome (AIDS). Starting in FY materiel may be procured for exploitation of advanced technology and development to meet Army medical defense goals. This program element supports the full-scale accordance with P.L. 103-160. Additionally, the program element funds engineering and manufacturing development of medical equipment which provides protection the integrated battlefield with emphasis on deceased size/weight and high mobility, yet supporting large numbers of combat casualties. Additionally, foreign medical 1996, funding for chemical and biological defense medical research and development efforts (project D848) have been consolidated into DOD PE 0605384BP in efforts in the engineering and manufacturing development phase of the acquisition cycle and are therefore correctly placed in Budget Activity 5.

Page 1 of 16 Pages

Exhibit R-2 (PE 0604807A)





L.	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICAT	ION S	HEET (R	-2 Exhi	bit)		DATE N	March 1996	96
BUDGET ACTIVITY 5 - Engineering	вирсет Астіvітץ 5 - Engineering and Manufacturing Development	evelopmo	ant	PE NU 060 Def	PE NUMBER AND TITLE 0604807A Medi Defense Equipn	пть Леdical М uipment ·	lateriel/M Enginee	PE NUMBER AND TITLE 0604807A Medical Materiel/Medical Biological Defense Equipment - Engineering Development	iological	ıt.	РКОЈЕСТ D812
))	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D812 Military Human I Vaccine and Dru	Military Human Immunodeficiency Virus (HIV) Vaccine and Drug-Engineering Development	6219	193	193	288	288	1910	1894		Continuing	Continuing
A. Mission Descript Development: This development of suffic	A. Mission Description and Budget Item Justification: Project D812-Military Human Immunodeficiency Virus (HIV) Vaccine and Drug-Engineering Development: This project funds Congressionally mandated, militarily relevant HIV medical countermeasures. This provides for engineering and manufacturing development of sufficient candidate vaccines and drugs to permit large-scale field testing and education/training materials. Efforts are directed to answer militarily unique needs affecting manning, mobilization and deployment. The major contractor is Henry M. Jackson Foundation for the Advancement of Military Medicine., Rockville, MD.	nandated, mings to permit of the majer.	t D812-Milli litarily relev large-scale or contracto	itary Huma ant HIV me field testing r is Henry N	n Immunoc dical counte and educati 1. Jackson F	leficiency V rmeasures. on/training r	irus (HIV) This provide naterials. Es	Vaccine and see for engine fforts are dir	I Drug-Eng ering and m ected to ans filitary Med	incering nanufacturing wer militaril	y unique ville, MD.
Acquisition Strategy	Acquisition Strategy: Test and evaluate commercially developed vaccine candidates in government managed trials.	ally develope	d vaccine ca	ındidates in	government	managed tri	als.				
FY 1995 Accomplishments:	Iments: Evaluated vaccines for protection against HIV-1. Selected HIV vaccine products to test in Thailand field trials. Studied potential cohort populations to determine which group offers the best chance for success of a Phase III efficacy trial.	ion against F s to test in Tl ations to det	HIV-1. Thailand field ttermine whic	trials. h group offe	ers the best c	hance for su	, ccess of a Pl	nase III effic	acy trial.		
FY 1996 Planned Program:	ogram: Identify cohorts for a Phase III test of a vaccine to prevent infection with HIV. Conduct Phase I trials to evaluate vaccine products for transitioning to Phase III. SBIR/STTR	I test of a vac	cine to prev products for	ent infectio transitionin	n with HIV. g to Phase II	ij					
FY 1997 Planned Program:	ogram: Develop and prepare cohorts for a Phase III test of a vaccine to prevent infection with HIV. Conduct additional Phase I trials and begin Phase II trials and selected products to evaluate vaccine products for transitioning to Phase III.	or a Phase II als and begin	I test of a va Phase II trii	ccine to pre ils and selec	III test of a vaccine to prevent infection with HIV. in Phase II trials and selected products to evaluate	on with HIV.	vaccine pro	ducts for tra	nsitioning to) Phase III.	
Project D812				Page 2 of 16 Pages	16 Pages			Exhib	it R-2 (PE (Exhibit R-2 (PE 0604807A)	

RDT&E BUDGET ITEM JUSTIFICA	IIFICATION SHEET (R-2 Exhibit)	(R-2 Exhibit)	DATE March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604807A Medi Defense Equipm	PE NUMBER AND TITLE 0604807A Medical Materiel/Medical Biological Defense Equipment - Engineering Development	PROJECT Siological D812 velopment	2
B. Project Change Summary Previous President's Budget Request (FY 1996) Appropriated Amount (FY 1995) Adjustments to FY 1995 Adjustments to FY 1996 Adjustments to FY 1996 Adjustments to Budget (FY 1997) year since FY 1996 Presidents Budget Current Budget Submit For FY 1997	1995 FY 1996 6352 199 6219 195 6219 193	FY 1997 199 -6		
C. Other Program Funding Summary: Not Applicable	•	;		
Project D812	Page 3 of 16 Pages		Exhibit R-2 (PE 0604807A)	
	1012			





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	JGRAM EL	EMENT/PR	SJECT (SOST BI	REAKDO	WN (R-	3)	DATE Marc	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	nufacturing [Development		PE NUMBER AND TITLE 0604807A Medi Defense Equipn	AND TITLE 'A Medica Equipme	al Materie ent - Engi	PE NUMBER AND TITLE 0604807A Medical Materiel/Medical Biological Defense Equipment - Engineering Development	iological relopment	PROJEC D812	РРОЈЕСТ D812
A. Project Cost Breakdown Test & Evaluation Product Development Project Management Total			FY 1995 6219 0 0 6219	EX	FY 1996 189 0 0 189	EY 1997 193 0 0 193				
B. Budget Acquisition History and Planning Information Performing Organizations Contractor or Contract Government Method/Type Award or Perform Performing or Funding Obligation Activity Activity Vehicle Date E	and Planning Inf ype Award or Cobligation Date	ormation Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Bud	Budget to Complete	Total Program
Support and Management Organizations: None Support and Management Organizations USAMMDA NA NA NA NA Contracts NA NA Army Laboratories NA NA Contracts NA NA NA H.M. Jackson C/Coop Apr 93 Foundation Agmt	ations: None Sanizations NA NA NA Iions NA NA Apr 93	NA NA NA NA 125000	NA NA NA NA 125000	NA NA NA NA 38042	0 0 0 0 6219	0 0 0 189	0 0 0 0 193		0 0 0 Cont	44880
Government Furnished Property: None Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	rty: None			38042 38042	6219	189	193 193			44880
Project D812			Page	Page 4 of 16 Pages	ies		Exhib	Exhibit R-3 (PE 0604807A)	807A)	
				1012						

	RDT&E BUDGET ITEM JUST	EM JUS	TIFICAL	ION S	IFICATION SHEET (R-2 Exhibit)	-2 Exhil	oit)		DATE N	March 1996	6
BUDGET ACTIVITY 5 - Engineering	вирсет астіvіту 5 - Engineering and Manufacturing Developme	evelopm	ent	PE NU 060	PE NUMBER AND TITLE 0604807A Medical Materiel/Medical Biological Defense Equipment - Engineering Development	itte ledical M iipment -	ateriel/M Enginee	edical B	iological	±	PROJECT D832
ŏ	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D832 Combat Medical Development	Combat Medical Materiel-Engineering Development	1372	1546	1695	1736	1852	1825	1810		Continuing	Continuing
A. Mission Descript manufacturing develc duty rates. The major	A. Mission Description and Budget Item Justification; Project manufacturing development to field new and improved medical m duty rates. The major contractor is the Guild Corp, Hillard, OH.	ation: Proje ved medical I Hillard, OH.	et D832-Cor nateriel esse	nbat Medic ntial for cor	al Materiel- nbat casualty	Engineering	g Developm ace logistica	ent: This p	roject suppo quirements a	t D832-Combat Medical Materiel-Engineering Development: This project supports engineering and nateriel essential for combat casualty care to reduce logistical support requirements and minimize loss from	ig and loss from
Acquisition Strategy	Acquisition Strategy: Test and evaluate commercially developed materiel for hardening or other modification in government managed trials.	ally develope	ed materiel f	or hardening	g or other mo	odification in	ı governmen	t managed t	rials.		
FY 1995 Accomplishments:	Iments: Reevaluated data and submitted to FDA a N	ed to FDA a	New Drug A	nnlication f	lew Drug Application for Hypertonic Saline Dextran	Saline Dev	tran				
294	Awarded contract for prototype armored ambulance medical interior concepts.	be armored a	mbulance m	edical interi	or concepts.						
721	Supported the engineering development and user evaluation of telemedicine hardware and concepts for the treatment of combat casualties. Eundo will be concerned for SDID/STTP processes in posted with the Small Business Incomes Beauty Beauty Beauty	velopment ar	incurcar oxy id user evalu	gen generation at tel	emedicine ha	irdware and	concepts for	the treatme	nt of comba	t casualties.	30 40
37	runds will be reprogrammed for SDIN/S1 1 N programs in accordance with the Smail Business innovation Research Program Reauthorization Act of 1992.	ior sbir/si	ı n program	s in accorda	nce with the	Small busin	ess innovati	on Kesearch	Program K	cauthorizatio	ACT OF
Total 1372											
FY 1996 Planned Program:	ogram:										
• 117	Conduct milestone 3 In-Process Review of	ss Review of		Hypertonic Saline Dextran.	tran.						
741	Fabricate armored ambulance prototype and prepare specifications. Monitor field medical oxygen generation and distribution system production contract	prototype an	nd prepare spand	ecifications on system r	i. production co	intract					
333	Conduct technical and user evaluations of the intraosseous infusion device	aluations of	the intraosse	ous infusion	n device.						
283	Support the engineering development and user evaluation of telemedicine hardware and concepts for the treatment of combat casualties.	lopment and	user evaluat	ion of telen	nedicine hard	lware and co	ncepts for th	ne treatment	of combat c	asualties.	
34	Kevised Economic Assumption not available SBIR/STTR	on not availa	ole for execution.	tion.							
Total 1546											
Project D832				Page 5 of 16 Pages	16 Pages			Exhib	Exhibit R-2 (PE 0604807A)	0604807A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (F	२-2 Exhibit)	DATE March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604807A Medi Defense Equipn	ре NUMBER AND TITLE 0604807A Medical Materiel/Medical Biological Defense Equipment - Engineering Development	l Biological Development	PROJECT D832
 FY 1997 Planned Program: 189 Conduct additional clinical trials and submit a supplemental New Drug Application for Hypertonic Saline Dextran. 62 Monitor field medical oxygen generation and distribution system production and fielding. 98 Conduct technical and user testing of far forward suction apparatus. 1346 Conduct technical and user evaluations of EDM model of armored treatment and transport vehicle. Total 1695 	nit a supplemental New Drug Application for Hand distribution system production and fielding. forward suction apparatus. FEDM model of armored treatment and transpor	cation for Hypertonic Saline Dextr and fielding. and transport vehicle.	ran.	
B. Project Change Summary Previous President's Budget Request (FY 1996) Appropriated Amount (FY 1995) Adjustments to FY 1995 Adjustments to FY 1996 Adjustments to FY 1996 Adjustments to Budget (FY 1997) year since FY 1996	FY 1996 1590 1562 -16	EY 1997 1754 -59		
Presidents Budget Current Budget Submit For FY 1997 C. Other Program Funding Summary: Not Applicable	1546	1695		
 D. Schedule Profile: Multiple medical developmental products will advance through the various events throughout the FY 195 FY 1995 FY 1996 FY 1995 FY 1996 /ul>	rough the various e FY 1996 2 3	vents throughout the FY FY 1997 4 1 2 3	4	
Field Medical Oxygen Generation and Distribution System MLST 3 Intraosseous Infusion Device MLST 3		×		
Project D832	Page 6 of 16 Pages	Û	Exhibit R-2 (PE 0604807A)	07A)

RDT&	E PROG	RAM ELE	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	OJECT (COST BI	REAKD	OWN (R-	3)	DATE	900
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	and Manuf	acturing D	evelopmen		PE NUMBER AND TITLE 0604807A Medi Defense Equipn	AND TITLE 7A Medic 6 Equipme	al Materie	Defense Equipment - Engineering Development	Siological 1990	PROJECT D832
A. Project Cost Breakdown Test and Evaluation Product Development	kdown			EX 1995 993	4	FY 1996 615	FY 1997 1363			
Program Management Total				216 216 1372		203 1508	270 270 1695			
B. Budget Acquisition History and Planning Information	1 History and	Planning Info	rmation							
Performing Organizations Contractor or Contra	ations Contract									
nent ing	Method/Type or Funding	Award or Obligation	Performing Activity	Project Office	Total Prior to				Rudget to	t Total
Activity Vehicle Product Development Organizations	<u>Vehicle</u> it Organization	Date s	EAC	EAC	FY 1995	FY 1995	FY 1996	EY 1997	Complete	Pro
Contracts	NA .	NA	NA	NA	NA	163	069	62	Cont	ont Cont
Support and Management Organizations USAMMDA NA NA	ement Organiza NA	ations NA	NA	Ą	Ą	132	94	180	Ć	
Contracts N	NA	NA	NA	NA	NA	84	109	06	Cont	Cont 289
Army Laboratories NA	Organizations NA	NA	NA	NA	NA	993	615	1369	Cont	nt
Government Furnished Property: None	d Property: 1	Vone								
Subtotal Product Development	opment					163	069	62		
Subtotal Support and Ivianagement Subtotal Test and Evaluation	ianagement iation					216 993	203	270		
Total Project						1372	1508	1695		
Project D832				Page	Page 7 of 16 Pages	es		Exhib	Exhibit R-3 (PE 0604807A)	(A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION SE	HEET (R	-2 Exhi	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PE NU 060 Def	PE NUMBER AND TITLE 0604807A Medi Defense Equipn	ritle Medical N uipment	ре NUMBER AND TITLE 0604807A Medical Materiel/Medical Biological Defense Equipment - Engineering Development	ledical B	iological relopmer	į	РРОЈЕСТ D834
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D834 Soldier System Protection-Engineering Development	0	876	884	919	927	914	806		Continuing	Continuing
A. Mission Description and Budget Item Justification: Project D834-Soldier System Protection-Engineering Development: This project supports engineering development of preventive medicine materiel, including devices, pharmacologicals and other tools, to provide protection, sustainment, and enhancement of the physiological and psychological capabilities of soldiers in the face of combat operations under all environmental conditions. Focus is on reduction in the incidence of personnel losses due to preventable disease and non-battle injuries through development of environmental and physiological performance monitors and other preventive medicine countermeasures. A major contractor is Stanford Research Institute, Palo Alto, CA.	ation: Proje ding devices liers in the fa 1-battle injuri stanford Rese	t D834-Sol pharmacolo c of combat sthrough d	dier System ogicals and c t operations evelopment e, Palo Alto,	Protection other tools, the under all end of environm CA.	-Engineerin o provide pri vironmental ental and ph	g Developm stection, sust conditions.	ent: This prainment, and Focus is on 1	roject suppo d enhancem reduction in monitors an	orts engineer ent of the the incidenc id other prev	ing e of entive
Acquisition Strategy: Test and evaluate commercially developed materiel for hardening or other modification in government managed trials.	ally develope	d materiel f	or hardening	; or other mo	dification in	ı governmen	t managed tr	ials.		
FY 1995 Accomplishments: Project not funded.										
FY 1996 Planned Program:	on not availa	user evaluat ole for execu	ion of telen ıtion.	nedicine har	dware and co	nd user evaluation of telemedicine hardware and concepts for soldier protection. lable for execution.	oldier protec	:tion.		
FY 1997 Planned Program:	elopment and performance	user evaluat enhancing d	ion of telen rugs.	nedicine har	dware and co	nd user evaluation of telemedicine hardware and concepts for soldier protection. e enhancing drugs.	oldier protec	:tion.		
Project D834			Page 8 of	Page 8 of 16 Pages			Exhib	it R-2 (PE	Exhibit R-2 (PE 0604807A)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	-ICATIO	N SHEET (R-2 Exhibit)	DATE March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604807A Medi Defense Equipn	PE NUMBER AND TITLE 0604807A Medical Materiel/Medical Biological Defense Equipment - Engineering Development	Biological	PROJECT D834
B. Project Change Summary Previous President's Budget Appropriated Amount (FY 1995) Adjustments to FY 1995 Adjustments to FY 1996 Adjustments to Budget (FY 1997) year since FY 1996 Presidents Budget Current Budget Submit/President's Budget	FY 1995 0 0	EY 1996 901 885 -9 876	FY 1997 915 -31		
D. Schedule Profile: Multiple medical developmental products wil	ll advance thr	ough the various	will advance through the various events throughout the FY		
Project D834	Page	Page 9 of 16 Pages	Exhi	Exhibit R-2 (PE 0604807A)	(A2)





RDT&E PROGRAM ELEMENT/PR	PROJECT C	SOST BI	ZEAKD(COST BREAKDOWN (R-3)		DATE March 1996	966
виреет АстіVітҮ 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604807A Medi Defense Equipn	AND TITLE A Medic Equipme	al Materie ent - Engi	ре NUMBER AND TITLE 0604807A Medical Materiel/Medical Biological Defense Equipment - Engineering Development	ological elopment	PROJECT D834
A. Project Cost Breakdown Test & Evaluation Product Development Project Management Total	FY 1995 0 0 0	五	EY 1996 0 834 20 854	FY 1997 45 835 4 884			
B. Budget Acquisition History and Planning Information							
Performing Organizations Contract Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity Vehicle Date EAC Product Development Organizations	Project Office EAC	Total Prior to	EY 1995	FY 1996	FY 1997	Budget to Complete	o Total E Program
Contracts NA NA NA NA Surnort and Management Organizations	NA	NA	0	834	831	Cont	ıt Cont
USAMMDA NA NA NA NA Test and Evaluation Organizations:	NA	NA	0	20	4	Cont	ıt 41
Army Labs NA NA NA	NA	NA	0	0	45	Cont	ıt 41
Government Furnished Property: None							
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project			0 0 0	834 20 0 854	831 4 45 884		
Project D834	Page	Page 10 of 16 Pages	sə		Exhibit	Exhibit R-3 (PE 0604807A)	(4

RDT&E BUDGET ITEM JUSTI	EM JUS	TIFICA	TION SI	HEET (R	IFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	9
вирбет Астіvіту 5 - Engineering and Manufacturing Developmer	evelopm	ent	PE NI 060 Def	PE NUMBER AND TITLE 0604807A Medi Defense Equipm	ve n∪wber And Title 0604807A Medical Materiel/Medical Biological Defense Equipment - Engineering Development	ateriel/M Enginee	ledical B	iological	.	РРОЈЕСТ D848
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D848 Medical Chemical Defense Life Support Materiel	876	0	0	0	0	0	0		0	1126

A. Mission Description and Budget Item Justification: Project D848-Medical Chemical Defense Life Support Materiel: This project funds the development of medical materiel necessary to field an effective capability for medical defense against chemical agent threats facing U.S. forces in the field.

Acquisition Strategy: Test and evaluate commercially developed materiel for hardening or other modification in government managed trials.

FY 1995 Accomplishments:

- Conducted extended stability testing of the medical aerosolized nerve agent antidote, convulsant antidote for nerve agents, and nerve agent pretreatment pyridostigmine.
 - Determined comparative safety and pharmacokinetics of pyridostigmine in males and females. 824 876

Total

FY 1996 Planned Program: Project moved to DoD PE 0605384BP Project 848.

FY 1997 Planned Program: Project moved to DoD PE 0605384BP Project MC5.

B. Project Change Summary	FY 1995	FY 1996	FY 1997	
Previous President's Budget Request (FY 1996)	52	0	0	
Appropriated Value	51		•	
Adjustments to Appropriated Value	825			
Adjustments to Budget (FY 1997) year since FY 1996				
Presidents Budget		•		
Current Budget Submit For FY 1997	876	0	0	

Change Summary Explanation:

Funding: Funds were reprogrammed from Army PE 0603807, Project A993, to conduct studies on pyriodostigmine bromide to address questions and concerns on drug interaction and gender related differences arising out of Operation Desert Storm.

Project D848

Page 11 of 16 Pages

Exhibit R-2 (PE 0604807A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604807A Medical Materiel/Medical Biological Defense Equipment - Engineering Development	PROJECT Biological D848 evelopment
C. Other Program Funding Summary: Not Applicable		
D. Schedule Profile: Multiple medical developmental products will advance through the various events throughout the FY.	ough the various events throughout the FY.	
Project D848	Page 12 of 16 Pages	Exhibit R-2 (PE 0604807A)
	1021	

RDT	RDT&E PROGRAM ELEMENT/P	RAM ELE	EMENT/PR	JECT C	SOST BE	ZEAKDC	ROJECT COST BREAKDOWN (R-3)	3)	DATE March	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	gand Manuf	acturing D	evelopment		PE NUMBER AND TITLE 0604807A Medi Defense Equipn	AND TITLE 'A Medic 'Equipme	al Materie ent - Engir	DE NUMBER AND TITLE 0604807A Medical Materiel/Medical Biological Defense Equipment - Engineering Development	liological velopment	PROJEC D848	PROJECT D848
 A. Project Cost Breakdown Test & Evaluation Product Development Project Management Total 	e akdown It			FX 1995 824 0 52 876	FY	FY 1996 0 0 0	FY 1997 0 0				
B. Budget Acquisition History and Planning Information Performing Organizations Contractor or Contract Government Method/Type Award or Perform	ion History and Dations Contract Method/Type	Planning Info Award or	ormation Performing	Project	Total						
Performing or Funding (Activity Vehicle I Product Development Organizations	or Funding Vehicle	Obligation Date	Activity EAC	Office EAC	Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete		Total Program
Contracts	NA	YN :	NA	NA	NA	0	0	0	J	Cont	Cont
Support and Management Organizations USAMMDA NA NA Contracts NA NA	ement Organiza NA NA	ations NA NA	A N	N N	N A A	52 0	00	0	J	Cont	Cont
Test and Evaluation Organizations Contracts NA	Organizations NA	NA	NA	NA	NA	824	0	0		Cont	Cont
Government Furnished Property: None	shed Property: 1	None									
Subtotal Product Development	velopment				NA	0	0	0		0	Cont
Subtotal Support and Management Subtotal Test and Evaluation Total Project	i Management aluation				N N	52 824 876	00	00		0 0	Cont
Project D848				Page	Page 13 of 16 Pages	ges		Exhik	Exhibit R-3 (PE 0604807A)	807A)	





	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SUL ME	TIFICAL	ION SI	HEET (R	-2 Exhi	bit)		DATE N	March 1996	90
BUDGET ACTIVITY 5 - Engineering	вирсет Асті VITY 5 - Engineering and Manufacturing Developm	evelopm	ent	PE NI 060 Def	PE NUMBER AND TITLE 0604807A Medical Materiel/Medical Biological Defense Equipment - Engineering Development	тге ledical M iipment -	lateriel/M Enginee	ledical B ring Dev	iological relopmer	ıt	РКОЈЕСТ D849
33	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D849 Infectious Diseas Development	Infectious Disease Drug and Vaccine-Engineering Development	3991	1993	2022	2053	2031	1762	1749		Continuing	Continuing
A. Mission Descript engineering and manulicensure. Work perference prevent casualties, sus	A. Mission Description and Budget Item Justification: Project D849-Infectious Diseases Drug and Vaccine-Engineering Development: This project funds engineering and manufacturing development of sufficient candidate medical countermeasures to permit large-scale field testing and complete studies required for FDA licensure. Work performed in laboratories and among troop populations is directed to prevention, diagnosis, and treatment of viral, bacterial and parasitic diseases, so as to prevent casualties, sustain operational performance and minimize deaths and disability of armed forces during military operations.	ition: Proje icient candid ig troop pop ind minimiz	ct D849-Infe ate medical ulations is di e deaths and	ectious Dise countermea irected to pr disability of	sases Drug a sures to pern evention, dia f armed force	nd Vaccine- nit large-scal gnosis, and	Engineerin le field testin treatment of litary operat	g Developm ig and comp viral, bacter ions.	ı ent: This p lete studies : rial and para	oroject funds required for Isitic disease	FDA s, so as to
Acquisition Strategy	Acquisition Strategy: Test and evaluate in-house and commercially developed vaccine candidates in government managed trials to meet FDA requirements.	od commerci	ally develop	ed vaccine	candidates in	governmen	t managed tr	ials to meet	FDA requir	ements.	
FY 1995 Accomplishments:	iments: Commisted Dhase III study to mrove officery of RTEC	yearone office.	W OF ETEC								
928	Completed rhase in study to prove entracy of the reconcerning to be reconcerned field study with whole cell/B subunit cholera vaccine.	note cell/B s	y or ETEC. ubunit chole	ra vaccine.							
197	Performed clinical testing of lyophilized	yophilized T	Fick-Borne Encephalitis vaccine.	ncephalitis	vaccine.	Touton on	Die Weller	listo con cuil	9		
• 447 • 850	Conducted expanded Phase 1/11 trials of Chikungunya live vaccine, Argentina, frantaan and Kut valley live vaccines. Completed Phase III field study and submited PLA for Hepatitis A inactive vaccine.	II trials of CI ly and subm	ikungunya ited PLA for	nve vaccine Hepatitis A	, Argentina, inactive vac	riantaan and cine.	i Kilit valley	IIVE VACCIIIE	Ŕ		
384	Supported the engineering development and user evaluation of telemedicine hardware and concepts in the prevention, diagnosis and treatment of infectious diseases.	elopment a	ıd user evalu	nation of tel	emedicine h	ardware and	concepts in	the preventi	on, diagnosi	is and treatm	ent of
Total 3991											
FY 1996 Planned Program:	rogram:										
• 440	Submit a Product License Application for	olication for	the whole cell cholera vaccine.	ell cholera v	accine.						
. 592	Conduct field trials of Hantaan, Chikungunya, live Shigella flexneri and Enterotoxigenic E. coli whole cell, and Rift Valley Fever live vaccines.	n, Chikungu	nya, live Shi	gella flexne	ri and Enterc	otoxigenic E	. coli whole	cell, and Rif	t Valley Fev	ver live vacc	ines.
911	Conduct safety and efficacy tests of the antimalarial drug Azimromycin.	ests of the a	ntimalarial d Me for eveci	rug Azlunrol Ition	mycın.						
0 44	SRIR/STTR	il liot avalla	חוב זהו בעבבר	riloii.							
Total 1993											
Project D849				Page 14 of 16 Pages	l 6 Pages			Exhib	oit R-2 (PE	Exhibit R-2 (PE 0604807A)	

RDT&E BUDGET ITEM JUSTIFICATI	FICATION SHEET (R-2 Exhibit)	R-2 Exhibit)	DATE March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604807A Medi Defense Equipm	PE NUMBER AND TITLE 0604807A Medical Materiel/Medical Biological Defense Equipment - Engineering Development	al Biological Development	PROJECT D849
 FY 1997 Planned Program: 1051 Conduct field trials of malaria blood stage and Rift Valley Fever vaccines. 971 Complete safety and efficacy testing of antimalarial drug Azithromycin. Total 2022 	y Fever vaccines. , Azithromycin.			
B. Project Change Summary Previous President's Budget Request (FY 1996) Appropriated Amount (FY 1995) Adjustments to FY 1995 -307	FY 1996 2048	EY 1997 2093		
Appropriated Amount (FY 1996) Adjustments to FY 1996 Adjustments to Budget (FY 1997) year since FY 1996 Presidents Budget	2013 -20	-71		
Current Budget Submit For FY 1997 C. Other Program Funding Summary: Not Applicable	1993	2022		
fucts will 1995	rough the various ev FY 1996	throughout the FY FY 199		
5 7	× × ×	4 1 2 3	4	
Hepatitis A MLST 3 Hantaan MLST 3a Chikungunya MLST 3a Shigella flexneri MLST 3a	×	×	×	
Project D849	Page 15 of 16 Pages	ш	Exhibit R-2 (PE 0604807A)	(A)





RDT&E PROGRAM ELEMENT	RAM EL		OJECT (SOST BI	REAKDO	/PROJECT COST BREAKDOWN (R-3)	3)	DATE March 1996	1996	
вирсет Астіvітү 5 - Engineering and Manufacturing Development	facturing [Development		PE NUMBER AND TITLE 0604807A Medi Defense Equipn	AND TITLE 'A Medic Equipme	al Materie ent - Engi	PENUMBER AND TITLE 0604807A Medical Materiel/Medical Biological Defense Equipment - Engineering Development	iological /elopment	PROJECT D849	ест .9
A. Project Cost Breakdown Test & Evaluation Product Development Project Management Total			FY 1995 2302 1433 256 3991		FY 1996 1551 55 337 1943	EY 1997 1543 0 550 2093				
B. Budget Acquisition History and Planning Information	l Planning Inf	ormation								
Performing Organizations Contractor or Contract Government Method/Type / Performing or Funding (Activity Vehicle I Product Development Organizations	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to <u>Complete</u>		Total Program
Contracts NA	NA	NA	NA	NA	1433	55	0	O	Cont	Cont
and Manage DA	zations NA	Y.	NA	NA S	221	280	386		Cont	Cont
Contracts Test and Evaluation Organizations		Y Z	Y Y	Y V	35	57	164	O	Cont	Cont
Army Laboratories NA Walter Reed Army NA	NA NA	A Z A	N A A	NA NA	219	292 1069	323 529		Cont	Cont
Inst of Research Contracts Navy Laboratories NA		NA NA	N N A	NA NA	300	0 190	0 620		Cont	Cont
Subtotal Product Development	None			N	1433	55	c		ţa c) on
Subtotal Support and Management Subtotal Test and Evaluation				A A	256 2302	337 1551	550 1472		Cont	Cont
Total Project					3991	1943	2022			
Project D849			Page	Page 16 of 16 Pages	ses		Exhib	Exhibit R-3 (PE 0604807A))7A)	

RDT&E BUDGET ITEM JUST	EM JUS		TION S	IEET (R	IFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	_
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme≀)evelopm	ent	PE NI 060 Dev	PE NUMBER AND TITLE 0604808A Land Development	E NUMBER AND TITLE 0604808A Landmine Warfare/Barrier - Engineering Development	Warfare	/Barrier -	Enginee	ring	
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	7077	6977	19731	22866	36637	19964	29209		Continuing	Continuing Continuing
D016 Mine Systems Engineering Development	6615	5096	5499	0	0	0	12155		Continuing	Continuing
D415 Mine Neutralization/Detection	462	1881	14232	22866	36637	19964	17054		Continuing	Continuing Continuing

a minefield command and control system for the Wide Area Munition (WAM) and improved sensors that increase countermeasure resistance of Volcano mines which can be Project D016, Mine Systems Engineering Development, provides for the increased tactical effectiveness and responsiveness of landmines by supporting the development of dispensed rapidly from helicopters, ground dispensers, artillery systems and tactical aircraft. Project D415, Mine Neutralization/Detection Engineering Development, is the provides a group of mutually supported mine detection and neutralization devices to counter a variety of threat mines, minefields and obstacles necessary for implementing Mission Description and Budget Item Justification: This program element provides for engineering and manufacturing development of mine and countermine systems. Handheld Stand-off Minefield Detection System (HSTAMIDS), and a product improvement to the Armored Vehicle Launched Mine Clearing Line Charge (AVLM). It engineering and manufacturing development for the Airborne Standoff Minefield Detection System (ASTAMIDS), Explosive Standoff Minefield Breacher (ESMB) and the Army's Countermine Modernization Plan. This program element supports Engineering and Manufacturing Development and is, therefore, appropriately placed in Budget Activity 5.

Page I of 9 Pages

1026

Exhibit R-2 (PE 0604808A)





	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICAT	ION SE	IEET (R	-2 Exhil	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering	вирдет астіvіту 5 - Engineering and Manufacturing Development	evelopm	ent	PE NU 060 Dev	PE NUMBER AND TITLE 0604808A Land Development	e number AND TITLE 0604808A Landmine Warfare/Barrier - Engineering Development	Warfare	/Barrier	- Engine		РКОЈЕСТ D016
ŏ	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D016 Mine Systems E	Mine Systems Engineering Development	6615	5096	5499	0	0	0	12155		Continuing	Continuing
A. Mission Descrip	A. Mission Description and Budget Item Justification: Provides for engineering and manufacturing development of scatterable mines and new smart munitions.	ation: Provi	des for engin	eering and	manufacturii	ng developm	ent of scatte	rable mines	and new sm	art munition	ý
Acquisition Strategy: A command a WAM product improvement program.	Acquisition Strategy: A command and control capability is being developed as a product improvement to Wide Area Munition (WAM) and will be incorporated into the WAM product improvement program.	oability is bei	ng developec	l as a produ	ct improven	ent to Wide	Area Munit	ion (WAM)	and will be	incorporated	into the
FY 1995 Accomplishments:	hments: Designed Control Unit and Communications Module for WAM Command and Control (C2) Designed Safe and Arm for WAM C2 Performed WAM System Engineering/Integration and Modified Control Electronics	ommunicatio VAM C2 gineering/Inte	ns Module fa	or WAM Co Modified Co	ommand and	Control (C2	6				
FY 1996 Planned Program:	rogram: Complete Radio Brassboard Design for WAM C2 Complete Safe and Arm Design and Control Electronics Modifications for WAM C2 Develop Software and Lab Test Units for WAM C2 SBIR/STTR Revised Economic Assumptions not available for execution	Design for W gn and Contr est Units for ons not availe	/AM C2 rol Electronic WAM C2 able for execu	s Modificat ution	ions for WA	M C2					
FY 1997 Planned Program:	'rogram: Integrate, Assemble, Test and Complete Software Development for WAM C2 Conduct field Demonstration and Engineering Verification for WAM C2 Qualify WAM C2 Prototype	i Complete S and Enginee	oftware Devring Verifica	elopment fo tion for W⊅	r WAM C2 IM C2						
Project D016				Page 2 of 9 Pages	9 Pages			Exhit	Exhibit R-2 (PE 0604808A)	0604808A)	
				1001							

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TFICATION	ON SHEET (R	-2 Exhit	oit)	DATE March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	nt	PE NUMBER AND TITLE 0604808A Land Development	пть andmine nt	PENUMBER AND TITLE 0604808A Landmine Warfare/Barrier - Engineering Development	- Engineering	PROJECT D016
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995 Appropriated Amount (FY 1996)	EY 1995 6757 6615	EY 1996 5392 5147	EX 1997 5694			
Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current President's Budget Submit	6615	-51 -51 5096	-195			
C. Other Program Funding Summary EY 1995 RDTE, 0603619.D005, Landmine Adv Dev	FY 1996 F	FY 1997 FY 1998 4052	FY 1999 4613	FY 2000 FY 2001 4586	Cor	To Total Cost 13251
1 er M139 1	29126 923	962				
D. Schedule ProfileFY 1995Designed Control Unit and Communications123	4 *	FY 1996	4	FY 1997 2 3 4		
Module for WAM C2 Designed Safe & Arm for WAM C2 Performed WAM System Engineering/Integration and Modify	* *					
Complete Radio Brassboard Design for WAM C2			×			
Complete Safe and Arm Design and Control Electronics Modifications for WAM C2			×			
Project D016	I	Page 3 of 9 Pages		Exh	Exhibit R-2 (PE 0604808A)	8A)
		000.				





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ND TITLE L Landmine Wane	PROJECT ingineering D016
D. Schedule Profile FY 1995	FY 1996 FY 1997 2 3 4 1 2 3 4	
)	· ×	
* Milestone Completed		
Project D016	rage + 0/ > rages	11-2 (1 E 000-1000/1)

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	I COST BREAK	DOWN (R-3)	DATE March 1996	9661
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604808A Land Development	PE NUMBER AND TITLE 0604808A Landmine Warfare/Barrier - Engineering Development	- Engineering	PROJECT D016
ireakdown FY	EX.1	FY 1997 4374		
Test & Evaluation Government Engineering & Support Government Program Support	275 500 450 160 150	475 475 175		
nomic Adjustment	51 51 5096	5499		
B. Budget Acquisition History and Planning Information Not Applicable				
Project D016	Page 5 of 9 Pages	Exhi	Exhibit R-3 (PE 0604808A)	3A)



Per NuMeser And Title Per 1995 Pri 1996 Pri 199		RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	FION SI	HEET (R	-2 Exhil	bit)		DATE N	March 1996	9
Principle Prin	BUDGET ACTIVITY 5 - Engineerinς	y and Manufacturing D	evelopm	ent	PE NU 060 Dev	JMBER AND 14808A L	TITLE .andmine .t	Warfare	/Barrier ·	- Engine		РРОЈЕСТ D415
A. Mission Description and Budget Item Justification: This project provides engineering and manufacturing development for the Airborne Standoff Minefield System (ASTAMIDS), Explosive Standoff Minefield Breacher (ESNB). Handheld Stand-off Minefield Detection System (HSTAMIDS), Interim Vehicle Mounte Detector (ANSTAMIDS), Explosive Standoff Minefield Breacher (ESNB). Handheld Stand-off Minefield Detection of mutually supported mine detection an entualization devices to counter a variety of threat mines, minefields and obstacles necessary for implementing the Army's Countermine Modernization Plan. Acquisition Strategy: ASTAMIDS and IVMMD - RDTE with sole source production award to RDTE contractor, ESMB - RDTE with competitive production of FY 1995 Accomplishments: 350 Conducted Technical/Operational Testing of Mounting Device for AVLM Mounting Device FY 1995 Planned Program: 112 Prepared Safety Assessment Report and Documented Design of AVLM Mounting Device 113 Para Conduct Testing and Evaluation for IVMMD 1145 Award Contract and Program: 115 Revised Economic Adjustment not available for execution Total ISSI 116 Conduct Milestone III Review for ASTAMIDS 200 Conduct Milestone III Review for IVMMD 210 Conduct Milestone III Review for IVMMD 211 Conduct Milestone III Review for IVMMD 211 Conduct Milestone III Review for IVMMD 211 Conduct Milestone III Review for IVMMD 211 Conduct Milestone III Review for IVMMD 211 Conduct Milestone III Review for IVMMD 211 Conduct Milestone III Review for IVMMD 211 Conduct Milestone III Review for IVMMD 211 Conduct Milestone III Review for IVMMD 211 Conduct Milestone III Review for IVMMD 211 Conduct Milestone III Review for IVMMD 211 Conduct Milestone III Review for IVMMD	Ō	OST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
A. Mission Description and Budget Hem Justification. This project provides engineering and manufacturing development for the Airborne Shandoff Minefield System (ASTAMIDS), England Month	ľ	tion/Detection	462	1881	14232	22866	36637	19964	17054		Continuing	Continuing
omplishments: 350 Conducted Technical/Operational Testing 112 Prepared Safety Assessment Report and D 462 1145 Award Contract and Procure Test Hardwa 689 Conduct Test and Evaluation for IVMMD 42 SBIR/STTR 5 Revised Economic Adjustment not availat 1881 1881 967 Conduct Milestone II Review for ASTAM 9135 Conduct Source Selection and Initiate Eng 3930 Procure Long Lead Sensor and Processor 200 Conduct Milestone III Review for IVMMI 14232	A. Mission Descript System (ASTAMIDS Detector (IVMMD) a neutralization devices	ion and Budget Item Justifica), Explosive Standoff Minefiel nd a product improvement to th s to counter a variety of threat n	tion: This p d Breacher (I e Armored V nines, minefi	roject provii SSMB), Har 'ehicle Laur elds and obs	des engineer idheld Stand iched MICL tacles necess	ring and man 1-off Minefie IC (AVLM). sary for impl	ufacturing d ld Detection It provides	evelopment System (HS a group of r e Army's Co	for the Airb STAMIDS), nutually sup	orne Stando Interim Veh sported mine Aodernizatio	off Minefield nicle Mounte e detection an Plan.	Detection d Mine nd
omplishments: 350 Conducted Technical/Operational Testing of Mounting Device for AVLM 112 Prepared Safety Assessment Report and Documented Design of AVLM Mounting Device 462 1145 Award Contract and Procure Test Hardware for Interim IVMMD 689 Conduct Test and Evaluation for IVMMD 42 SBIR/STTR 5 Revised Economic Adjustment not available for execution 1881 1987 Conduct Milestone II Review for ASTAMIDS 9135 Conduct Selection and Initiate Engineering Development Design for ASTAMIDS 200 Conduct Milestone III Review for IVMMD 100 Conduct Milestone III Review for IVMMD	Acquisition Strategy	y: ASTAMIDS and IVMMD -		sole source p	production a	ward to RD1	(E contracto	r; ESMB - F	3DTE with c	competitive	production c	ontract.
 Ined Program: 1145 Award Contract and Procure Test Hardware for Interim IVMMD 689 Conduct Test and Evaluation for IVMMD 42 SBIR/STTR 5 Revised Economic Adjustment not available for execution 1881 Inned Program: 967 Conduct Milestone II Review for ASTAMIDS 968 Conduct Source Selection and Initiate Engineering Development Design for ASTAMIDS 9135 Conduct Source Selection and Processor Components for ASTAMIDS Prototypes 200 Conduct Milestone III Review for IVMMD 14232 	FY 1995 Accomplis	hments: Conducted Technical/Operatic Prepared Safety Assessment R	onal Testing (of Mounting ocumented I	Device for Design of A	AVLM VLM Mounti	ing Device					
967 Conduct Milestone II Review for ASTAMIDS 9135 Conduct Source Selection and Initiate Engineering Development Design for ASTAMIDS 3930 Procure Long Lead Sensor and Processor Components for ASTAMIDS Prototypes 200 Conduct Milestone III Review for IVMMD 14232	FY 1996 Planned Pl • 1145 • 689 • 42 • 5 Total 1881	rogram: Award Contract and Procure T Conduct Test and Evaluation SBIR/STTR Revised Economic Adjustmen	Fest Hardwar for IVMMD it not availab	e for Interin le for execut	1VMMD tion							
	FY 1997 Planned P 967 9 9135 9 3930 Total 14232	rogram: Conduct Milestone II Review Conduct Source Selection and Procure Long Lead Sensor an Conduct Milestone III Review	for ASTAM I Initiate Eng d Processor (/ for IVMMI	DS neering Dev components	velopment D for ASTAIN	Pesign for A& IIDS Prototy	STAMIDS					
Project D415 Exhibit R-2 (PE 0604808A)	Project D415				Page 6 of	9 Pages			Exhibi	it R-2 (PE C)604808A)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	M JUSTIFICA	TION SHE	ET (R-	2 Exhib	Ē		DATE March 1996	1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	velopment	PE NUMB 06048 Devel	PE NUMBER AND TITLE 0604808A Land Development	re ndmine	Warfare/B	arrier	PE NUMBER AND TITLE 0604808A Landmine Warfare/Barrier - Engineering Development	PROJECT D415	ь
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995 Amount (FY 1996)	F 1995 932 912 912	995 EY 1996 932 1990 912 450		FY 1997 14735					
Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current Budget Estimate Submit for FY 1997	46	-19 -19 462 1881	-19 881	-503					
Change Summary Explanation: Funding: FY 1995 - below threshold reprogramming to P	mming to PE 060361	E 0603619A for APOBS.							
C. Other Program Funding Summary RDTE, 0603619A.D606, Countermine/Barrier	FY 1995 FY 1996 23378 31942	FY 1997 16464	F <u>Y 1998</u> 7655	FY 1999 5372	EY 2000 1 6893	FY 2001 11085	To Compl Cont		Total Cost Cont
OPA3, M80101, IVMMD OPA3, S11500, ASTAMIDS OPA3, M80300, ESMB			6457	4363	4014 11280	11201 3430	ŏŏ	Cont Cont	15622 Cont Cont
D. Schedule Profile	FY 1995 2 3 4	FY 1996		4	FY 1997 2 3	4			
Conducted Technical/Operational Testing of AVLM Mounting Kit Completed Design of AVLM Mounting Kit Award Contract and Procure Test Hardware for IVMMD	* *	×		×					
Conduct Milestone III Review IVMMD				1	×				
Project D415		Page 7 of 9 Pages	ages			Exhib	Exhibit R-2 (PE 0604808A)	(V)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	IND TITLE Landmine Wanent	PROJECT Engineering D415
D. Schedule Profile 17 1995 1 1	FY 1996 FY 1997 2 3 4 1 2 3 4	
n		
* Milestone Completed		
		######################################
Project D415	rage of 9 rages	ר-ב (רב טטט+סטטא)

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BREAKE	OWN (R-3)	DATE March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604808A Land Development	PE NUMBER AND TITLE 0604808A Landmine Warfare/Barrier - Engineering Development	- Engineering	PROJECT D415
A. Project Cost Breakdown Primary Hardware Development Test and Evaluation Government Engineering and Support	995 FY 1996 1097 300 190 112 449	E <u>Y 1997</u> 9635 3997		
	_	600		
B. Budget Acquisition History and Planning Information Not Applicable				
	·			
Project D415	Page 9 of 9 Pages	Exhit	Exhibit R-3 (PE 0604808A)	3A)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION SI	JEET (R	-2 Exhi	bit)		DATE Sep	September 1995	995
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PENI 060 Enç	PE NUMBER AND TITLE 0604814A Sens Engineering De	PENUMBER AND TITLE 0604814A Sense and Des Engineering Development	d Destroy ment	e NUMBER AND TITLE 0604814A Sense and Destroy Armor Munition Engineering Development	Munition	ı	
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	40475	16164	10149	22575	21000	13000	2000	0	0	1005933
D2ST SADARM Operational Test	0	0	309	5275	0	0	0	0	0	5884
D644 Generic SADARM Engineering Development	40475	16164	9840	17000	21000	13000	2000	0	0	1000049

Mission Description and Budget Item Justification: Sense and Destroy Armor (SADARM) munitions will provide an enhanced fire/counterfire capability for 155mm howitzer delivery systems. SADARM can attack targets well beyond the Forward Line of Troops (FLOT) in a fire-and forget mode. SADARM can be used in day and night, inclement weather and degraded battlefield conditions.

ejection from the 155mm projectile, the PI SADARM submunitions deploy and descend toward the ground at a constant velocity and spin rate. The submunitions contain an footprint, permitting each submunition to cover approximately three times the area of the baseline SADARM, improved infrared sensor to see targets at higher altitudes, and howitzers) and secondary targets (light and heavy missile launchers, surface-to-air missile sites, air defense units, surface-to-surface missiles and towed howitzers). Upon These capabilities will be enhanced by the SADARM Product Improvement (PI) program which begins in FY 1997. The PI SADARM munition will have an enlarged (approximately 12 football fields), the improved sensor detects its presence and fires the new combined effects warhead which consists of a primary penetrator with a improved sensing mechanism which combines a dual-mode millimeter wave sensor with an improved infrared sensor array. If a target is present within the scan area a combined effects (multi-frag) warhead permitting it to kill more targets. As a result, the PI SADARM is more effective against its primary target (self-propelled number of smaller penetrators traveling in the same controlled, predicted direction and engaging the target.

The projects within this Program Element support research efforts in the engineering and manufacturing development phases of the acquisition strategy and are, therefore, correctly placed in Budget Activity 5.

Page 1 of 9 Pages

Exhibit R-2 (PE 0604814A)

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA	TION S	HEET (R	FIFICATION SHEET (R-2 Exhibit)	bit)		DATE Sep	September 1995	995
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Jevelopm	ent	PE NI 060 Enç	PE NUMBER AND TITLE 0604814A Sens Engineering Dev	PE NUMBER AND TITLE 0604814A Sense and Des Engineering Development	PE NUMBER AND TITLE 0604814A Sense and Destroy Armor Munition - Engineering Development	/ Armor	Munition		PROJECT D2ST
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D2ST SADARM Operational Test	0	0	309	5575	0	0	0	0	0	5884

A. Mission Description and Budget Item Justification: This project finances the direct costs of planning and conducting operational test and evaluation of the Sense and Initial Operational Test and Evaluation (IOTE) in FY 98. Operational testing is conducted under conditions that approximate, as closely as possible, those encountered in actual combat with typical user troops trained to employ the system. The OPTEC provides Army leadership with an independent test and evaluation of effectiveness and suitability of the system. Project D2ST is restructured from SSN E66300, Projectile, Artillery, 155mm SADARM, M898, Procurement Ammunition, Army, and is not a Destroy Armor (SADARM) munitions by the Operational Test and Evaluation Command (OPTEC). SADARM is an Acquisition Category (ACAT) ID system with an

FY 1995 Accomplishments: No FY 1995 planned program

FY 1996 Planned Program: No FY 1996 planned program

FY 1997 Planned Program:

309 Planning and preparation for test during the 3QTR FY 98 IOTE

Total 309

B. Project Change Summary	FY 1995	FY 1996	FY 1997
Previous President's Budget (FY 1996)	0	0	3626
Appropriated Amount (FY 1995)	0		
Adjustments to FY 1995	0		

Appropriated Amount (FY 1995)
Adjustments to FY 1995
Appropriated Amount (1996)
Adjustment to FY 1996
Adjustments to Budget Year (FY 1997) since
FY 1996 President's Budget
Current Budget Submit/President's Budget

-3317

309

Change Summary Explanation: The testing will be conducted in FY 1998 rather than FY 1997 and funds were therefore not required in FY 1997.

Project D2ST

1036

Page 2 of 9 Pages

Exhibit R-2 (PE 0604814A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION SHEET (R-2 Exhibit)	DATE September 1995
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604814A Sense and Destroy Armor Munition - Engineering Development	PROJECT D2ST
C. Other Program Funding Summary: None		
D. Schedule Profile	FY 1996 FY 1997	
Initiate preparation for 1Q FY 98 IOTE	- ×	•
Project D2ST	Page 3 of 9 Pages	Exhibit R-2 (PE 0604814A)

RDT&E PROGRAM ELEMENT/PRO	JECT C	OST BR	EAKDO	ROJECT COST BREAKDOWN (R-3)		DATE September 1995	er 199	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604814A Sens Engineering Dev	A Sense ring Deve	PE NUMBER AND TITLE 0604814A Sense and Dest Engineering Development	БТІТІЕ Sense and Destroy Armor Munition - ig Development	Aunition -	PROJECT D2ST	ECT
 A. Project Cost Breakdown Operational Test and Evaluation Total 	FY 1995 0	EY 1996 0	966 0	EX 1997 309 309				
B. Budget Acquisition History and Planning Information								
Performing Organizations Contract Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity Vehicle Date EAC Product Development Organizations: N/A Support and Management Organizations Test and Evaluation Organizations	Project Office EAC I	Total Prior to FY 1995	EY 1995	FY 1996	EX 1997	Budget to Complete		Total
OPTEC, Alex, VA		0	0	ο.	309	55	5575	5884
Government Furnished Property: None								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project		0000	0000	0000	309	, v	0 0 5575	0 0 0 2884
					50c	6	c/cc	88 88 84
Project D2ST	Page	Page 4 of 9 Pages			Exhibil	Exhibit R-3 (PE 0604814A)	(4A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICAT	TION S	HEET (R	-2 Exhil	bit)		DATE Sep	September 1995	995
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	evelopm	ient	PE NI 060 Enç	PE NUMBER AND TITLE 0604814A Sense and Destroy Armor Munition Engineering Development	ππιε Jense anα Develop	d Destroy ment	/ Armor I	Munition	_	РRОЈЕСТ D644
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D644 Generic SADARM Engineering Development	40475	16164	9840	17000	21000	13000	2000	0	0	1000049

A. Mission Description and Budget Item Justification: Sense and Destroy Armor (SADARM)

eliminated the Honeywell competition. Aerojet then selected Honeywell (now Alliant Techsystems) as their prime sub-contractor and will continue this relationship into Acquisition Strategy - R&D: The cost plus incentive fee (CPIF) contracts were awarded in FY 86 to Aerojet Electrosystems and Honeywell. In FY 91, a design select production. The Aerojet contract is now scheduled for completion in FY 96. Starting in FY 97, a contract will be awarded for a product improvement to the basic SADARM. This effort will focus on expanding the lethal search area of the submunition and improving its ability to kill targets.

FY 1995 Accomplishments:

32575 155mm engineering/corrective action

3100 155mm performance testing

4800 Producibility efforts

Total 40475

FY 1996 Planned Program:

- 1900 155mm performance testing
- 8350 Producibility efforts/testing
- 5514 Transition to production efforts
- 46 Revised Economic Assumptions not available for execution
- Funds will be used for SBIR/STTR programs IAW the Small Business Innovation Research Program Reauthorization Act of 1992

al 1616

1039

Page 5 of 9 Pages

Project D644

Exhibit R-2 (PE 0604814A)

RDT&E BUDGET ITEM JUSTI	M JUSTIFICAT	FICATION SHEET (R-2 Exhibit)	ET (R-2 E	:xhibit)		DATE Sentember 1995	1995	
вирсет Астіvітү 5 - Engineering and Manufacturing Developmen	relopment	PE NUMBE 06048' Engine	PE NUMBER AND TITLE 0604814A Sens Engineering Dev	PENUMBER AND TITLE 0604814A Sense and Destroy Armor Munition Engineering Development	y Armor N	Aunition -	PROJECT D644	5
 FY 1997 Planned Program 1250 Hardware in-the-loop support 1250 Initial/design planning for combined effects warhead 4000 Trade studies and test for electronics sensor/software 850 Test hardware 2490 Government support and development of initial test criteria/schedules/plans Total 9840 	ned effects warhead nics sensor/software oment of initial test crite	ria/schedules/p	lans					
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995	EY 1995 41395 40526 -51	EY 1996 16617		FY 1997 0				
Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current President's Budget Submit	40	16327 -163 16164		9840 9840				
Change Summary Explanation: Funding: FY 1996: This program has been reduced for revised economic assumptions Schedule: FY 1997: Product Improvement Program will be initiated in FY 97; electronic	revised economic assu Il be initiated in FY 97;	mptions electronic trad	e studies and	omic assumptions in FY 97; electronic trade studies and prototype testing will be initiated.	will be initiate	v j		
C. Other Program Funding Summary Procurement, Ammunition, Army, SSN E66300 Proj, Arty, 155mm SADARM, M898	FY 1995 FY 1996 29825 41103	EX 1997 EN 60259	EY 1998 EX 69455 7	FY 1999 FY 2000 78050 84892	FY 2001 84261	To Compl 1839243	228	Total Cost 7088
Project D644		Page 6 of 9 Pages	iges		Exhibit	Exhibit R-2 (PE 0604814A)	4A)	
		1040						





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	T ITEM JUS	TIFICATION	N SHEET (R-2 E)	chibit			DATE September 1995	er 1995
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ing Developme	ent	PE NUMBER AND TITLE 0604814A Sense and Destroy Armor Munition - Engineering Development	Sense g Deve	and D	estroy a	Armor	funition -	PROJECT D644
D. Schedule Profile	FY 1995	1	FY 1996	-	-	FY 1997	\		
ASARC/type classify (low rate prod) Defense Acq Board/Milestone IIIA Initial verification testing Award first low rate prod contract Final verification tests Award option to first LRP contract Award second low rate prod contract Producibility confirmation firings Conduct Initial Production Test (IPT) Award Product Improvement Contract * Denotes completed milestone				4 ★	<u>-</u>				
Project D644		Pag	Page 7 of 9 Pages		:		Exhibi	Exhibit R-2 (PE 0604814A)	(4)
			1041						

RDT	RDT&E PROGRAM ELEMENT/P	RAM ELE	MENT/PRO	JECT C	SOST BF	ZEAKDO	ROJECT COST BREAKDOWN (R-3)	3	DATE September 1995	er 1995	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	and Manuf	acturing D	evelopment		PE NUMBER AND TITLE 0604814A Sens Engineering Dev	AND TITLE A Sense	PE NUMBER AND TITLE 0604814A Sense and Dest Engineering Development	БТПЕ Sense and Destroy Armor Munition ig Development	Munition -	PROJECT D644	<u>ا</u> د
A. Project Cost Breakdown Contractor Engineering Support Government Engineering Support Program Management Support Developmental Test and Evaluation Total	akdown ng Support ring Support nt Support and Evaluation			EY 1995 32681 2670 1809 3315 40475	EX.	EX 1996 11730 1632 1132 1670 16164	EX 1997 7350 2190 250 50 9840				
B. Budget Acquisition History and Planning Information	on History and	Planning Info	vrmation								
Performing Organizations Contractor or Contra	zations Contract										-
Government Performing	Method/Type or Funding	Award or Obligation	Performing Activity	Project Office	Total Prior to				Budget to		Total
Activity	Vehicle	Date	EAC	EAC	FY 1995	FY 1995	FY 1996	FY 1997	Complete	Prc	Program
Froduct Development Organizations Prod Improv:- SS/CPAF]	SS/CPAF	IS FEB 97	TBD	TBD	0	0	0	6100	33	38350 4	44450
Aerojet- Azusa,CA	נומטיט	79 413	ţ	001011	00000			•		,	
ARDEC-Picatinny	CCPIF	SEP 80	180	442460	391830 58403	32800 1000	11730 8 10	0 1250	94	0 43 4000	436360 65463
Alliant Tech Sys Honkins MN	C/CPIF	SEP 86	TBD	188714	188038	0	0	0			188038
Loral Vought Sys	SS/CPIF	SEP 88	TBD	90535	90535	0	0	0		0	90535
Miscellaneous					7645	0	0	0		0	7645
Support and Management Organizations	gement Organiz	ations									
Prod Improv: ARDEC					0	0	0	0		0	
PM SADARM						0	0	250		850	1100
Picatinny Arsenal					10130	2115	1400	2190	6	9150	24985
PMO-MLRS, Huntsville, AL					16266	0	0	0		0	16266
Miscellaneous					7454	914	468	0		0	8836
Project D644				Pag	Page 8 of 9 Pages	Si		Exhit	Exhibit R-3 (PE 0604814A)	14A)	





RDT&E PROGRAM ELEMENT/	NT/PROJEC	PROJECT COST BREAKDOWN (R-3)	REAKDO	OWN (R-	3)	DATE September 1995	r 1995
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	opment	PE NUMBE 060481 Engine	PE NUMBER AND TITLE 0604814A Sense and Dest Engineering Development	and Dest	PE NUMBER AND TITLE 0604814A Sense and Destroy Armor Munition Engineering Development	Munition -	PROJECT D644
Award or Pe Obligation Date	rforming Project Activity Office EAC EAC		FY 1995	FY 1996	FY 1997	Budget to Complete	o Total e <u>Program</u>
VPG, Yuma, AZ WSMR New Mexico		19352 26487	1000	645	40	630	0 21667 0 26487
Miscellaneous Government Furnished Property: None		64430	2646	1111	10	α	20 68217
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project		736451 33850 110269 880570	33800 3029 3646 40475	12540 1868 1756 16164	7350 2440 50 9840	42350 10000 650 53000	0 832491 0 51187 0 116371 0 1000049
Project D644		Page 9 of 9 Pages	દિહ		Exhit	Exhibit R-3 (PE 0604814A)	٩)
		1042					

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION S	HEET (R	-2 Exhi	bit)		DATE M	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developmen	Jevelopm	ent	PE NI 060	PE NUMBER AND TITLE 0604816A Long	PE NUMBER AND TITLE 0604816A Longbow					
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	169582	22945	5872	0	0	0	0	0	0	1740960
DC13 Hellfire Seeker	35480	0	0	0	0	0	0	0	0	385830
DC27 Longbow - ED	22093	0	0	0	0	0	0	0	0	761913
DC31 Longbow - Apache	16006	8006	0	0	0	0	0	0	0	551490
DC87 Longbow - Apache TESS	0	13937	5872	0	0	0	0	0	0	19809
D2DT LBA Operational Test	21918	0	0	0	0	0	0	0	0	21918

upgrade. Project D2DT provided funding for the direct costs of Initial Operational Test and Evaluation and the Longbow Operational Test. Project DC87 provides funding missile will effectively engage and destroy advanced threat armor on the digital battlefield well into the next century. Longbow Project DC13 consisted of the development for the Longbow Apache Tactical Engagement Simulation System (TESS). The TESS will perform air-to-air and RF missile simulations in addition to the functions of the Multiple Integrated Laser Engagement System/Air-to-Ground Engagement System for force-on-force collective training after fielding. Project DC87 also includes followon development of the Longbow Crew Trainer. The projects in this Program Element support research efforts in the engineering and manufacturing development phase of of a radar frequency (RF) missile seeker for the Hellfire missile. Project DC27 consisted of the development of a mast-mounted Fire Control Radar (FCR) for the AH-64. effectiveness and aircraft survivability. The weapon system will be employable by day or night, in adverse weather, and in countermeasures environments. The Hellfire Project DC31 includes the efforts necessary to synchronize the integration of the FCR and RF missile onto the Apache aircraft. It includes two versions of the Longbow Apache AH-64D series aircraft: (1) the AH-64D with the FCR mission kit plus the upgraded 701C engine, and (2) the AH-64D without the FCR mission kit and engine Mission Description and Budget Item Justification: Longbow will provide the AH-64 with a fire-and-forget Hellfire capability, greatly increasing weapon system the acquisition strategy and are, therefore, correctly placed in Budget Activity 5.

Page 1 of 18 Pages

Exhibit R-2 (PE 0604816A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION S	HEET (R	k-2 Exhi	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	Jevelopm	ent	PE NI 060	PE NUMBER AND TITLE 0604816A Longbow	TITLE Ongbow					PROJECT DC13
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DC13 Hellfire Seeker	35480	0	0	0	0	0	0	0	0	385830

weather, and in a countermeasures environment against armored targets and air defense systems. Its millimeter wave seeker and inertial measurement system provide a fire-A. Mission Description and Budget Item Justification This project develops the Longbow Hellfire, a missile that is capable of being employed day or night, in adverse and-forget capability which greatly reduces aircraft exposure time. It uses a Hellfire II warhead system to destroy threat armor that is projected for early into the 21st century.

Acquisition Strategy: The acquisition strategy involves a sole source contract during the Engineering and Manufacturing Development phase leading to a production contract in FY 96.

FY 1995 Accomplishments:

- 22861 Complete Engineering Development Contract
 - 4030 Testing
- Missile Flight Testing
 - Qualification Testing
- Electromagnetic Environmental Effect Testing
 - Warhead / Live Fire Testing
 - Countermeasure Testing
- 8589 Complete Program Management Support

• 8589 Total 35480 FY 1996 Planned Program: Project not funded.

FY 1997 Planned Program: Project not funded.

B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustments to FY 1995 Current President's Budget Submit	EY 1995 34522 33797 1683 35480	FY 1996 0 0 0	FY 1997 0 0 0 0	
Project DC13	Page 2 of 18 Page.	3 Pages		Exhibit R-2 (PE 0604816A)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	M JUSTIFICATI	ION SHE	ET (R-	2 Exhib	Ē		DATE March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	velopment	PE NUMI 06048	PE NUMBER AND TITLE 0604816A Longbow	rle ngbow				PROJECT DC13
Change Summary Explanation: Funding: FY 95 reprogramming (+1483) within PEO, Tactical Missiles. FY 95 adjustment (+200) from project DC31.	hin PEO, Tactical Missil	les. FY 95 ac	ljustment (+	-200) from ₁	project DC3	1.		
C. Other Program Funding Summary Missile Procurement, Army (C70300)	EX 1995 EY 1996 41195 188714	FX 1997 1 249521	EY 1998 268430	EY 1999 336513	EY 2000 290778	FY 2001 290388	To Complete 492411	To Total <u>ete Cost</u> 111 2157950
High Speed Captive Flight Test Missile Firings (Helo-launched) Hardware-In-The-Loop Tests System Qualification Tests IOTE Live Fire Tests * Denotes milestone completion	FY 1995 2 3 4 X* X* X* X*	7 1 2 X* X*	FY 1996 3	-	FY 1997 2 3	7 E		
Project DC13		Page 3 of 18 Pages	Pages			Exhibit	Exhibit R-2 (PE 0604816A)	6A)





RDT&E PROGRAM ELEMENT/PRO	JECT C	OST BR	EAKDO	PROJECT COST BREAKDOWN (R-3)	<u></u>	DATE March 1996	96
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	<u>a</u> —	PE NUMBER AND TITLE 0604816A LONG	AND TITLE A Longbow	ow			PROJECT DC13
A. Project Cost Breakdown Prime Contract Program Management & Test Support Total	EY 1995 22906 12574 35480	FY 1996 0 0	956 0 0	FY 1997 0 0			
B. Budget Acquisition History and Planning Information							
Award or Performing Obligation Activity <u>Date</u> <u>EAC</u>	Project Office EAC F	Total Prior to EY 1995	EY 1995	FY 1996	EY 1997	Budget to Complete	Total Program
Product Development Organizations Longbow Joint SS/CPIF/AF DEC 90		303289	22906	0	0	0	326195
Venture (Westinghouse & Lockheed Martin) Support and Management Organizations Program Management		39729	8655	0	0	0	48384
Support Test and Evaluation Organizations Test Activities		7332	3919	0	0	0	11251
Government Furnished Property Not applicable							
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	•	303289 39729 7332 350350	22906 8655 3919 35480				326195 48384 11251 385830
Project DC13	Page	Page 4 of 18 Pages	SS		Exh	Exhibit R-3 (PE 0604816A)	
		1047					

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA	TION S	HEET (R	IFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	٧
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developmer	Jevelopm	ent	PE NI 060	PE NUMBER AND TITLE 0604816A Long	PE NUMBER AND TITLE 0604816A Longbow					PROJECT DC27
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DC27 Longbow - ED	22093	0	0	0	0	0	0	0	0	761913

aircraft survivability. The weapon system will be employable day or night, in adverse weather, and in countermeasures environments. The system will effectively engage airframe. The FCR, along with the Hellfire Seeker (Project DC13), will provide the AH-64 with a fire-and-forget capability, greatly increasing system effectiveness and and destroy high-value targets including advanced armor on the battlefield well into the next century. To be effective and survive on this future battlefield, the attack A. Mission Description and Budget Item Justification: This project consists of a mast-mounted Fire Control Radar (FCR) that will be integrated onto the AH-64 helicopter team must rapidly engage multiple targets with minimum exposure time and deploy a system that is inherently resistant to threat countermeasures.

Acquisition Strategy: The acquisition strategy involves a sole source contract during the Engineering and Manufacturing Development phase leading to a production contract in FY 96.

FY 1995 Accomplishments:

- 15685 Engineering Development Contract
- Conduct Force Development Test and Experimentation (FDTE)
 - Complete environmental qualification
 - Award Long Lead Production Contract
 - Complete Systems Test
- Conduct Functional Configuration Audit (FCA)
- Conduct Initial Operational Test and Evaluation (IOTE)
 - Complete Development Program
 - 2183 In-House Support
 - 234 Test Support
- 3991 Support Contracts
 - Fotal 2209

FY 1996 Planned Program: Project not funded

FY 1997 Planned Program: Project not funded

Project DC27

Page 5 of 18 Pages

Exhibit R-2 (PE 0604816A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ET IT	EM JUS	TIFICAT	HS NOI	IEET (R	-2 Exhit	žť		DATE M	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ıring D	evelopm	ent	PE NU	PE NUMBER AND TITLE 0604816A Longbow	TTLE ongbow				PR D	PROJECT DC27
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995 Current Budget Estimate Submission				EY 1995 22479 22093 0 22093	EX 1996 0 0 0 0	EY 199	77 0 0 0				
C. Other Program Funding Summary Aircraft Procurement, Army (AA6608)		FY 1995 0	FY 1996 82062	FY 1997 95048	FY 1998 105264	FY 1999 119457	FY 2000 116038	FY 2001 108131		To Complete 57548	Total Cost 683548
D. Schedule Profile Technical Test FDTE IOTE Long Lead In Process Review FCA Long Lead Contract Award * Denotes milestone completion	-**	FY 1995 2 3 X*	* 4 *	1 Z Z	FY 1996 2 3	4	FY 1997	Γ. ε. 4			
Project DC27				Page 6 of 18 Pages	8 Pages			Exhib	Exhibit R-2 (PE 0604816A))604816A)	
) L							

RDT&	E PROG	RAM ELE	RDT&E PROGRAM ELEMENT/P	ROJECT	SOST BF	REAKDO	COST BREAKDOWN (R-3)		DATE March 1996	98
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	ind Manuf	acturing C	evelopme)	nt	PE NUMBER AND TITLE 0604816A Long	AND TITLE A Longbow	WO			PROJECT DC27
A. Project Cost Breakdown Contractor Engineering and Development Government Program Management Other Government Support PATS Contractor Program Support Total	down and Developn fanagement port am Support	nent		EX 1995 15685 2183 1566 2659 22093	EY 1996 0 0 0 0	960 0 0	EY 1997 0 0 0 0	,		
B. Budget Acquisition History and Planning Information	History and	Planning Info	<u>ormation</u>							
Performing Organizations Contractor or Contract Government Method/Type / Performing or Funding (Activity Vehicle I Product Development Organizations	ations Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	EY 1995	FY 1996	FY 1997	Budget to Complete	Total Program
Proof of Principle SS Contract - Longbow Joint	SS / CPIF		Contract is complete	Contract is complete	396945	0	0	0	0	396945
(Westinghouse & Lockheed Martin) EMD Contract - SS Longbow Joint CP	SS CPIF/AF	DEC 90			318189	15685	0		0	333874
and Managerog Mgmt. ontractors	ement Organiza Varies Varies Organizations	ations Quarterly Quarterly			7641 6642	3515 2659	0 0	0 0	0	11156 9301
Test Activities Varies Quarterly Government Furnished Property Not Applicable	Varies led Property N	Quarterly Vot Applicable	-		10403	234	0	0	0	10637
Project DC27				Page	Page 7 of 18 Pages	S		Exhibit I	Exhibit R-3 (PE 0604816A)	





RDT&E PROGRAM ELEMENT/PROJECT	PROJECT COST BREAKDOWN (R-3)	EAKDO	WN (R-		DATE	March 1996	6
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604816A Longbow	A Longb	wo			P. O	PROJECT DC27
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	Total Prior to EX 1995 715134 14283 10403	EY 1995 15685 6174 234 22093	FY 1996	FY 1997		Budget to Complete	Total Program 730819 20457 10637 761913
Project DC27	Page 8 of 18 Pages	Si		Exh	ibit R-3 (F	Exhibit R-3 (PE 0604816A)	
	1051						

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA.	TION S	TIFICATION SHEET (R-2 Exhibit)	-2 Exhi	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	evelopm	ent	PE NI 060	PE NUMBER AND TITLE 0604816A Longbow	TITLE Ongbow					PROJECT DC31
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DC31 Longbow - Apache	16006	8006	0	0	0	0	0	0	0	551490

increases the operational capability of the crew and provides increased lethality and survivability, while complying with Congressional direction to standardize the fleet to a that increases the AH-64 lethality and survivability. The Longbow Apache also retains the capability to fire the Semi-Active Laser Hellfire. The greatly-improved design systems for the AH-64D series to efficiently and effectively integrate the FCR and RF missile. The system provides an adverse weather fire-and-forget missile capability A. Mission Description and Budget Item Justification The Longbow program encompasses modifications to the AH-64 Apache as well as upgrades to the aircraft common configuration.

Acquisition Strategy: The acquisition strategy involves a sole source contract during the Engineering and Manufacturing Development phase leading to a production contract in FY 96.

FY 1995 Accomplishments:

- MDHS Engineering Development Contract 73008
- Procurement And Technical Support (PATS) Contracts 1722
 - Optical Relay Tube (ORT) Handgrip Modification 3251
 - - In-House Support 12110

90091 Total

FY 1996 Planned Program:

- MDHS Prime Contract 7423
 - In-House Support
- Optical Relay Tube (ORT) Handgrip Modification 809 550
- Revised Economic Adjustment Not Available for Execution
 - SBIR/STTR

FY 1997 Planned Program: Project not funded.

Project DC31

Page 9 of 18 Pages

Exhibit R-2 (PE 0604816A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	JUSTIFICAT	TION SHE	ET (R-	2 Exhib	 E	DATE	ге March 1996	9661	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	elopment	PE NUM 0604	PE NUMBER AND TITLE 0604816A Longbow	rle ngbow				PROJECT DC31	1 1
B. Project Change Summary FY 1995 FY 1996 FY 1996 Previous President's Budget (FY 1995) 88216 9261 Appropriated Amount (FY 1995) 86363 0 Adjustments to FY 1995 0 9099 Adjustment to FY 1996 0 -91 Adjustment to FY 1996 0 -91 Current President' Budget Submit 90091 90091 Change Summary Explanation: 50091 9009 FY 95 adjustment (-200) to project DC13, (+3928) reprogrammed for Longbow requirements. FY 96 adjustment (-91) for revised economic assumptions.	C13, (+3928) reprogi	EX 1995 88216 86363 +3728 0 0 90091	FY 1996 9261 0 9099 -91 9008	EY 1997 0 0 0 0 0 1irements.					
C. Other Program Funding Summary EY 1995 Aircraft Procurement, Army (AA6607)* *Includes procurement funding for TESS shown in Project DC87.	FY 1995 FY 1996 117027 335661 sject DC87.	EY 1997 296953	FY 1998 336218	FY 1999 433348	EY 2000 540048	FY 2001 580428	To <u>Compl</u> 5021664		Total Cost 7661347
D. Schedule Profile 1 Force Development Test & Experimentation X* Initial Operational Test & Evaluation) Long Lead In-Process Review Long Lead Contract Award Functional Configuration Audit Live Fire Testing Line Replaceable Units Qualification Environmental Control System Redesign Longbow Crew Trainer * Denotes milestone completion	FY 1995 2 3 4 X* X* X*	FY 1996 1 2 3	FY 1996 2 3 3 18 Pages	4 ××× -	FY 1997 2 3		4 Exhibit R-2 (PE 0604816A)	Q	

RDT&E P	RDT&E PROGRAM ELEMENT/P	EMENT/PR	SJECT C	OST BF	REAKDO	ROJECT COST BREAKDOWN (R-3)	<u>s</u>	DATE March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Manufacturing	Development		PE NUMBER AND TITLE 0604816A Long	PE NUMBER AND TITLE 0604816A Longbow	woo			PROJECT DC31
A. Project Cost Breakdown Contractor Engineering and Development Government In-House Program Management Other Government Support PATS Contractor Program Support SBIR / Economic Adjustment Total	Development am Management upport		FY 1995 76259 9391 2719 1722 90091	FY.	EY 1996 7973 809 0 0 226 9008	EY 1997 0 0 0 0			
B. Budget Acquisition History and Planning Information Performing Organizations Contractor or Contract Government Method/Type Award or Perform Performing or Funding Obligation Activ Activity Vehicle Date E McDonnell CPIF AUG 89 Douglas	un History and Planning In ations Contract Method/Type Award or or Funding Obligation Vehicle Date CPIF AUG 89	nformation Performing Activity EAC	Project Office EAC 460573	Total Prior to FY 1995 380142	FY 1995 73008	FY 1996 7423	FY 1997 0	Budget to Complete 0	to Total ste Program 0 460573
er Systems te ations) d Martin ndgrip	ng seere		3801	0	3251	550	0		0 3801
Support and Management Organizations Govt. Prog. Mgmt. Varies Quart PATS Contractors Varies Quart SBIR/Economic	Organizations Quarterly Quarterly			64677 5181	10349	809	0 0		0 75835 0 6903 226
Test and Evaluation Organizations Test Activities Varies	izations Quarterly			2353	1761	0	0		0 4114
Government Furnished Property Not applicable Project DC31	operty Not applicab	el e	Page	Page 11 of 18 Pages	səs		Exhil	Exhibit R-3 (PE 0604816A)	3A)





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BR	EAKDO	WN (R-	(a)	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604816A Longbow	AND TITLE A Longb	WO			Æ Õ	PROJECT DC31
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	Total Prior to EY 1995 380142 69858 2353 452353	EY 1995 76259 12071 1761 90091	EY 1996 7973 1035 9008	FY 1997		Budget to Complete	Total Program 464374 83002 4114 551490
Project DC31	Page 12 of 18 Pages	S		Exhit	oit R-3 (PE	Exhibit R-3 (PE 0604816A)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA.	TION S	HEET (R	-2 Exhi	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	Jevelopm	ent	PE NI 0 0 0	PE NUMBER AND TITLE 0604816A Longbow	TITLE Ongbow					PROJECT DC87
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DC87 Longbow - Apache TESS	0	13937	5872	0	0	0	0	0	0	19809

addition to the functions of the Multiple Integrated Laser Engagement System/Air-to-Ground Engagement System for force-on-force collective training after fielding. A. Mission Description and Budget Item Justification: The Tactical Engagement Simulation System (TESS) will perform air-to-air and RF missile simulations in Project DC87 also includes follow-on development of the Longbow Crew Trainer. The TESS consists of an "A" kit and a "B" kit. Acquisition Strategy: The Apache Attack Helicopter Project Manager's Office will contract with McDonnell Douglas Helicopter Systems to do the provisioning for the "A" kit that consists of minimal on-board software for data interface operator control software, wiring, and power source taps for the "B" kit.

FY 1995 Accomplishments: Project not funded

FY 1996 Planned Program:

- Start development, fabrication, and integration of the TESS "A" kit 2000
 - Start development, fabrication, and integration of the TESS "B" kit Continue development of the Longbow Crew Trainer 8598 1989
 - Supplier Qualification 1000
- Revised Economic Assumption Not Available for Execution
 - SBIR/STTR 311
- 13937

FY 1997 Planned Program:

- Complete integration of the "A" kit 9
 - Complete integration of the "B" kit 5272 5872
 - Total

Project DC87

Page 13 of 18 Pages

Exhibit R-2 (PE 0604816A)





RDT&E BUDGET ITEM JUSTIFICATIO	TIFICATION SHEET (R-2 Exhibit) DATE Ma	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604816A Longbow	PROJECT DC87
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustments to FY 1995 Adjustments to FY 1996 Adjustments to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current Budget Estimate Submission Change Summary Explanation: Change Summary Explanation:	FY 1995 FY 1996 FY 1997 0 14329 4080 0 0 0 0 14078 0 0 -141 0 0 0 1792 0 13937 5872	·
	FY 97 (-208) reflects revised economic assumptions; (+2000) reprogrammed from Aircraft Procurement Appropriation for TESS requirements.	luirements.
C. Other Program Funding Summary EY 1995 FY 1996 FY 1998 FY 1999 FY 2000 FY 2001 Compl Compl Compl Compl Compl Compl To To To Longbow Apache TESS (AA6607)* *This procurement funding represents only the portion of this line to be used for the TESS effort. The total procurement line (AA6607) includes additional funding for all other Longbow Apache efforts.	FY 1997 FY 1998 FY 1999 FY 2000 FY 2001 0 3435 3599 22942 0 or the TESS effort. The total procurement line (AA6607) includes additi	To Total Compl Cost 0 29976 onal funding for all
FY 1995 1 2 3 4 ment, fabrication, & integration integration	FY 1996 FY 1997 X X X Exhibit R-2 (PE 0604816A)	04816A)
Project DC8/		

RDT&E PROGRAM ELEMENT/PRO.	JECT C	ROJECT COST BREAKDOWN (R-3)	EAKDO	WN (R-	<u>(a</u>	DATE March 1996	96
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE O604816A Longbow	ND TITLE	ow.			PROJECT DC87
A. Project Cost Breakdown Contractor Engineering and Development Longbow Crew Trainer Development SINCGARS System Improvement Program SBIR / Economic Adjustment	EX 1995 0 0 0 0	EX 1996 10098 1989 1500 350 13937	2.1996 10098 1989 1500 350 337	FY 1997 5872 0 0 0 5872			
B. Budget Acquisition History and Planning Information							
Performing Organizations Contractor or Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity Vehicle Date EAC	Project Office EAC	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	Total Program
MDHS Unknown	19459			13587	5872	0	19459
Support and Management Organizations: SBIR/Economic Adjustment Test and Evaluation Organizations: None				350			350
Government Furnished Property Not applicable							
Subtotal Product Development Subtotal Support and Management				13587 350	5872		19459 350
Subtotal Test and Evaluation Total Project				13937	5872		19809
Project DC87	Page	Page 15 of 18 Pages	es		Exhil	Exhibit R-3 (PE 0604816A)	





RDT&E BUDGET ITEM JUST	EM JUS	TIFICA	TIFICATION SHEET (R-2 Exhibit)	HEET (F	R-2 Exhil	bit)		DATE N	March 1996	<u>«</u>
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	Jevelopm	ent	PE NI 060	E NUMBER AND TITLE	PE NUMBER AND TITLE 0604816A Longbow					PROJECT D2DT
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D2DT LBA Operational Test	21918	0	0	0	0	0	0	0	0	21918

Evaluation in 1995. Operational Testing is conducted under conditions as close as possible to those encountered in actual combat with typical user troops trained to employ the system. OPTEC provides an independent test and evaluation of the system's effectiveness and suitability to Army leadership. Project D2DT was restructured from PE Longbow Apache system by the Operational Test and Evaluation Command (OPTEC). The Longbow Apache is a Category I system with Initial Operational Test and A. Mission Description and Budget Item Justification: This project finances the direct costs of planning and conducting operational testing and evaluation of the 0605712A, Support of Operational Testing.

Acquisition Strategy: Operational Testing is required to determine the effectiveness and suitability of the Longbow system during the Engineering and Manufacturing Development phase, to meet the requirements for Milestone III and to enter the Production phase.

FY 1995 Accomplishments:

18998 Longbow Apache IOTE testing

1356 Longbow Apache IOTE evaluation

1564 Player unit support of IOTE

Total 21918

FY 1996 Planned Program: Project not funded

FY 1997 Planned Program: Project not funded

FY 1996 FY 1997				0 0
FY 1995 FY	23330	-1412		21918
B. Project Change Summary Previous President's Budget (FY 1996)	Appropriated Value (FY 1995)	Adjustments to FY 1995 Appropriated Value	Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget	Current Budget Estimate Submission

Change Summary Explanation:

Funding: Funds reprogrammed to support operational testing for other systems.

Exhibit R-2 (PE 060	
Page 16 of 18 Pages	
Project D2DT	

RDT&E BUDGET ITEM JUST	TIFICATION	IFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ent	PE NUMBER AND TITLE 0604816A Longbow	PROJECT D2DT
C. Other Program Funding Summary: Not applicable			
D. Schedule Profile 1 2 3 Initiate Preparation for IOTE * Denotes milestone completion * Denotes milestone completion Project D2DT	4	FY 1996 FY 1997 1 2 3 4 1 2 3 Substituting the state of	5 Exhibit R-2 (PE 0604816A)
		7707	





RDT&E PROGRAM ELEMENT/PRO.	PROJECT COST	COST BREAKDOWN (R-3)	OWN (R-3)	DATE	March 1996	6
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUM 0604	PE NUMBER AND TITLE 0604816A Longbow	yow.		9 Q	PROJECT D2DT
A. Project Cost Breakdown Operational Test and Evaluation Total	EY 1995 21918 21918	FY 1996 0 0	FY 1997 0 0			
B. Budget Acquisition History and Planning Information						
Performing Organizations Contractor or Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity Vehicle Date EAC Product Development Organizations: None Support and Management Organizations: None	Project Total Office Prior to EAC FY 1995	il 5 FY 1995	EY 1996 FY	FY 1997	Budget to Complete	Total Program
Test and Evaluation Organizations OPTEC		21918			0	21918
Government Furnished Property Not applicable						
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project		0 0 21918 21918			0000	0 0 21918 21918
Project D2DT	Page 18 of 18 Pages	Pages		Exhibit R-3 (F	Exhibit R-3 (PF 0604816A)	
	1971					

	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA-	TION S	HEET (R	-2 Exhi	bit)		DATE	March 1996	6
BUDGET 5 - En	вироет Астіуіту 5 - Engineering and Manufacturing Developm	evelopm	ent	PE NI 060 Mai	PE NUMBER AND TITLE 0604817A Combat Identification - Engineering & Manufacturing Development	ntle combat lo ng Devel	lentificat opment	ion - Eng	jineering	త	
	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
	Total Program Element (PE) Cost	20205	21853	16783	9730	9752	9591	9519		Continuing	Continuing Continuing
D482 (D482 Combat Identification EMD	20205	21853	13886	9730	9752	9591	9519		Continuing	Continuing Continuing
D901 ¢	D901 All Service Combat ID Evaluation Team	0	0	2897	0	0	0	0		0	0

friends, foes, and neutrals an absolute necessity, but increasingly difficult to achieve. The ability of weapons systems to engage targets at ranges longer than the capability to positively identify them significantly increases the potential for fratricide. This Program Element (PE) is directed toward the design and development of distinct technology Restructuring was required because ASCIET is an independent effort from the Battlefield Combat Identification System (BCIS) EMD work. The projects within this PE are devices to help minimize this battlefield deficiency. All Service Combat Identification Evaluation Team (ASCIET) began in FY 95 as an effort to evaluate and revise joint Mission Description and Budget Item Justification: The world situation and modern warfare are evolving in a manner that dictates making reliable identification of tactics, techniques, and procedures using current and new combat ID systems and technologies in a field environment. ASCIET was funded through Project D482. in the Engineering and Manufacturing Development (EMD) phase and the PE is correctly assigned in Budget Activity 5.

Page 1 of 9 Pages

1062

Exhibit R-2 (PE 0604817A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA.	TION SI	HEET (R	R-2 Exhi	bit)		DATE IN	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	Jevelopm	ent	PE N 060	PE NUMBER AND TITLE 0604817A Com Manufacturing [е NUMBER AND TITLE 0604817A Combat Identification - Engineering & Manufacturing Development	lentificat opment	ion - Enç	Jineering		PROJECT D482
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D482 Combat Identification EMD	20205	21853	13886	0626	9752	9591	9519		Continuing	Continuing Continuing

platforms. Shooters query potential targets at ranges that can extend beyond 5 km. Friendly platforms targeted by friendly shooters generate automatic electronic responses A. Mission Description and Budget Item Justification: The Battlefield Combat Identification System (BCIS) is the lead Army horizontal technology initiative using the "A kit" (platform specific) and "B kit" (common to all platforms) philosophy. The program takes advantage of acquisition streamlining and directs industry to use gunners as we participate in coalition warfare where partners operate weapon systems formerly associated with adversaries. BCIS is a millimeter wave (mmW), groundcommercial parts and practices to shorten acquisition timelines and to reduce cost. The purpose of BCIS is to reduce fratricide, a problem made increasingly difficult for ground (G-G), point of engagement system which provides through-the-sight, day/night, all weather positive identification of BCIS equipped US, Allied and coalition in less than one second. BCIS is resistant to electronic countermeasures, active exploitation and deception. BCIS will be demonstrated during the Army Digitization Exercise, Task Force XXI. It will be used by combat, combat support, and combat services support units.

Acquisition Strategy: A competitive, cost plus award fee contract, for 45 EMD units and option quantities, was awarded Aug 93. This contract will be modified to include producibility efforts that will lead to the Low Cost Design for the BCIS.

FY 1995 Accomplishments:

- 6583 Completed hardware fabrication/assembly/test
- 4726 Completed platform integration
- 1850 Initiated Pre-Production Qualification Test (PPOT)
- 262 Completed modeling/simulation effort
- 5811 Exercised options for Task Force XXI (TF XXI) Experiment 973 All Service Combat Identification Evaluation Team (ASCIET) Support
 - Total 20205

FY 1996 Planned Program:

- 673 Complete technical and user testing
- Complete hardware build for platform integration, and training/maintenance for TF XXI 14375
 - 3267 Initiate low cost design (LCD) producibility engineering effort
- 3000 All Service Combat Identification Evaluation Team (ASCIET) Support

Project D482

Page 2 of 9 Pages

Exhibit R-2 (PE 0604817A)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	CATION	SHEET (F	R-2 Exhibit)	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	# O Z	PE NUMBER AND TITLE 0604817A Com Manufacturing [PE NUMBER AND TITLE 0604817A Combat Identification - Engineering & Manufacturing Development	PROJECT
 FY 1996 Planned Program: (continued) 62 Revised Economic Assumption not available for execution 476 SBIR/STTR reduction not available for execution Total 21853 	execution n			
FY 1997 Planned Program:	maintenance support for TF] Circuit (ASIC) chip for LCD fort	maintenance support for TF XXI experiment Circuit (ASIC) chip for LCD Tort	xperiment	
B. Program Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustments to FV 1995	EX 1995 18424 18050 2155	EY 1996 30466	<u>FY 1997</u> 17359	
Appropriated Amount (FY 1996) Adjustments to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996		22074 -221	-3473	
Presidents Budget Submit	20205	21945	13886	
Change Summary Explanation: Funding: FY 95 Reprogrammed funds to fund ASCIET (+1800) FY 95 Reprogrammed funds to accelerate delivery for Task Force XXI (+355) FY 96 Revised Economic Assumption (-221) FY97 Reprogrammed to D901 ASCIET (-3000) and revised inflation (-473).	00) for Task Force I revised inflati	XXI (+355) ion (-473).		
	1	;	, (; ;	
Project D482	Page .	Page 3 of 9 Pages	Exhibit R-2	Exhibit R-2 (PE 0604817A)
	-	1064		





RDT&E BUDGET ITEM JUS	EM JUS	TIFICA	TIFICATION SHEET (R-2 Exhibit)	TEET (F	-2 Exhi	bit)		DATE Mai	March 1996	96
вироет астічіту 5 - Engineering and Manufacturing Developm	evelopm	ent	PE NC 060	PE NUMBER AND TITLE 0604817A Com	TITLE COmbat Ic	Jentifica	tion - E	PE NUMBER AND TITLE 0604817A Combat Identification - Engineering &		PROJECT D482
or Arow December Cum discussions of an about	me and the second	o lomont is	Mai	nufacturi Thilly coor	Manufacturing Development	lopment	- #060212	Wantain this program element is related to and fully coordinated with efforts in Dr. #0602120 (Battlefield Circuind Combat	no Dunc	hat
	id Combat Id	entification FY 1996	Demonstrati FY 1997	ion). EY 1998	FY 1999	FY 2000	EY 2001	1	To	Total
RDTE, A Budget Activity 2, PE 0602120A Proj AH15 Ground Combat Identification Tech	3939	3383	3686	3718	3802	3778	3854		continues	continues
KD1E A, Budget Activity 3, PE 0003712A Proj D281 Ground Combat ID Demo	716/	0813	/130	3412	•	>			>	01207
D. <u>Schedule Profile</u>	FY 1995 2 3	4	1 2	FY 1996 2 3	4	FY 1997 2 3		4		
Complete Hardware Fabrication/Assmb/Test Exercise option for TF XXI Experiment Conduct PPQT Complete platform integration Complete hardware build for TF XXI Complete hardware build for TF XXI Complete platform integ for TF XXI Complete tech, integ, fig/maint TF XXI Complete LCD producibility engineering effort Complete LCD hardware, fabrication, assembly, test	* * * *		*	* *	× ×	×		×		
Project D482			Page 4 of 9 Pages	9 Pages			ĒX	Exhibit R-2 (PE 0604817A)	04817A)	

RDT&E PROGRAM ELEMENT/P	AM ELEN	IENT/PRO	JECT C	ROJECT COST BREAKDOWN (R-3)	EAKDO	WN (R-3		DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	turing Dev	elopment	<u></u>	PE NUMBER AND TITLE 0604817A Com Manufacturing [ND TITLE Combaturing Dev	PE NUMBER AND TITLE 0604817A Combat Identifica Manufacturing Development	ation - Er t	р тпсе Combat Identification - Engineering & ring Development		РВОЈЕСТ D482
A. Project Cost Breakdown Primary Hardware Development Platform Integration System Engineering/Program Management Support Government Contractor Program Management Personnel Development Test and Evaluation Operational Test and Evaluation ASCIET Revised economic assumption not available for execution SBIR/STTR reduction not available for execution	ent Support able for executi execution	uo	EX 1995 9968 3792 1291 1473 858 1850 973	EY 1996 11948 2060 1280 1454 900 673 3000 623 476		EY 1997 10658 1264 1014 950 13886				
B. Budget Acquisition History and Planning Information Performing Organizations Contractor or Contract Government Method/Typ Award or Performing Activity e or Funding Obligation A Vehicle Date	anning Inform Award or Obligation Date	lation Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	Total Program	
TRW C/CPAF I GDLS SS/CPFF 2 Misc MIPR 1 Support and Management Organizations	12 Aug 93 29 Apr 94 15 Jan 94	58226 8215	58226 8215	19044 2863 3102	9968 3792 0	11948 1560 500	10658 0	8099	58226 8215 3602	
Misc MIPR CECOM MIPR Test and Evaluation Organizations				5248 3985	2331 1291	2354	1964 1264	1908 1214	13805 9034	
TECOM MIPR TEXCOM MIPR	01 Mar 95 15 Oct 95			00	1850 0	0 673	0 0		1850 673	
Project D482			Page	Page 5 of 9 Pages			Exh	Exhibit R-3 (PE 0604817A)	0604817A)	





RDT&E PROGRAM ELEMENT/PROJ	ECT CC	ST BRI	EAKDO	PROJECT COST BREAKDOWN (R-3)	(DATE	March 1996	96
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	# 0 Z	PE NUMBER AND TITLE 0604817A Com Manufacturing I	ND TITLE Combaturing Dev	⊵e NUMBER AND TITLE 0604817A Combat Identifica Manufacturing Development	ation - Er ıt	ре NUMBER AND TITLE 0604817A Combat Identification - Engineering & Manufacturing Development		РКОЈЕСТ D482
Contractor or Contract Government Method/Typ Award or Performing Performing Activity e or Funding Obligation Activity Vehicle Date EAC ASCIET MIPR 2Q 96	Project Office EAC	Total Prior to FY 1995 0	FY 1995 973	FY 1996 3000	EY 1997 0	Budget to Complete	Total Program 3973	
Government Furnished Property: Not Applicable								
Subtotal Funds not available for execution Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project		25009 9233 34242	13760 3622 2823 20205	538 14008 3634 3673 21853	. 10658 3228 13886		6608 3122 9730	Cont Cont Cont
				•				
Project D482	Page	Page 6 of 9 Pages			EX	Exhibit R-3 (PE 0604817A)	0604817A)	

RDT&E BUDGET ITEM JUS	EM JUS	TIFICA	TION SI	HEET (R	TIFICATION SHEET (R-2 Exhibit)	bit)		DATE M	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PE NI 060 Mai	PE NUMBER AND TITLE 0604817A Com Manufacturing [PENUMBER AND TITLE 0604817A Combat Identification - Engineering & Manufacturing Development	lentificat opment	ion - Enç	jineering		Р R ОЈЕСТ D901
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D901 All Service Combat ID Evaluation Team	0	0	2897	0	0	0	0		0	0

fostering improved tactics, techniques, and procedures (TTP) across all combat identification mission areas. The Army, Navy, Air Force and Marine Corps are designated as investigate and assess various concepts of combat identification on the battlefield. ASCIET will also offer Federally Funded Research and Development Centers (FFRDCs), A. Mission Description and Budget Item Justification: All Service Combat Identification Evaluation Team (ASCIET) Support. ASCIET is an expanded effort aimed at Service Battle Laboratories, and industry the opportunity to review and evaluate emerging technologies in multi-Service environment on a noninterference basis as a risk reduction and verification. ASCIET began in FY 95 as an effort to evaluate and revise joint TTP using current and new combat ID systems and technologies in a field the participating Services with the Air Force designated as the lead Service. ASCIET is chartered to employ the equipment and personnel of all Services to evaluate, environment. ASCIET was funded through Project D482. Restructuring was required because ASCIET is an independent effort from the BCIS EMD work.

Acquisition Strategy: A competitive, cost plus award fee contract, for 45 EMD units and option quantities, was awarded Aug 93. This contract will be modified to include producibility efforts that will lead to the Low Cost Design for the BCIS.

FY 1995 Accomplishments: Program not funded in FY 1995

FY 1996 Planned Program: Program not funded in FY 1996

FY 1997 Planned Program

- Demonstrate A-G target identification capability for rotary wing (HO-58D) platforms via SINGARS SIP(+) radio and embedded GPS interface (EGI) Demonstrate situational awareness to BCIS through digital data link reporting to include friend indication, GPS location, unit ID, SINCGARS call Demonstrate direct target ID capability for both fixed wing (AV-8B) and rotary wing (AH-64) sign/frequency.
 - Demonstrate automated "nine line" message generation utilizing Automatic Target Handoff System (ATHS) II data link to locate and identify targets for fixed wing aircraft. 424 2897 Total

Project D901

Page 7 of 9 Pages

Exhibit R-2 (PE 0604817A)



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (I	R-2 Exhibit)	DATE March 1996	
виреет Астіміту 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604817A Com Manufacturing [ре NUMBER AND TITLE 0604817A Combat Identification - Engineering & Manufacturing Development	PROJECT Gineering & D901	1 1
B. Program Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustments to FY 1995 Adjustments to FY 1996 Adjustments to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current Presidents Budget Submit	FY 1996 0	FY 1997 0 2897 2897		
Change Summary Explanation: Funding: FY97 Reprogrammed Funds from 0604817A/D482 C. Other Program Funding Summary: Not Applicable				
D. Schedule Profile 1 2 3 4 1 Conduct field test and demonstrations 1 2 3 4 1	FY 1996 2 3	FY 1997 4 1 2 3 4 X X		
Project D901	Page 8 of 9 Pages	Exhit	Exhibit R-2 (PE 0604817A)	
	1060			

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ELEMENT/PRO	JECT C	OST BF	REAKDC	WN (R-	(1	DATE March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developmen	ing Development		PE NUMBER AND TITLE 0604817A Com Manufacturing [AND TITLE A Comba	PENUMBER AND TITLE 0604817A Combat Identifica Manufacturing Development	ation - Eng	PE NUMBER AND TITLE 0604817A Combat Identification - Engineering & Manufacturing Development	РРОЈЕСТ D901
A. Project Cost Breakdown ASCIET Total	FY 1995	FY 1996	FX 1997 2897 2897					
B. Budget Acquisition History and Planning Information	ng Information							
Performing Organizations Contractor or Contract Government Method/Type Award or Performing or Funding Obligation Activity Vehicle Date Product Development Organizations: None Support and Management Organizations: None Test and Evaluation Organizations	l or Performing ution Activity EAC ee	Project Office EAC	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to Complete	Total <u>Program</u>
ASCIET MIPR						2897		2897
Government Furnished Property: Not Applicable	olicable							
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project						2897 2897		2897
Decision Tool		Q	Porto 0 of 0 Portos	ě		ָ ייני ייני	C. Hihit D 2 (DE 060/047A)	~
rioject Dyor		1 48	Sm 1 < 10 < 2	3			DI N-3 (PE 0004017)	2





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA.	TION S	HEET (R	-2 Exhil	bit)		DATE M	March 1996	မ
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PE NI 060 Hai	PE NUMBER AND TITLE 0604818A Army Tact Hardware & Software	ITLE Irmy Tac Software	tical Con	E NUMBER AND TITLE 0604818A Army Tactical Command and Control Hardware & Software	nd Contro	<u>-</u>	
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	18338	18163	16429	16309	16087	17087	16971		Continuing	Continuing Continuing
DC34 Army Tactical C2 Systems (ATCCS) Engineering	10151	10408	8645	8579	8460	9626	6996		Continuing	Continuing
D323 Common Hardware Software (CHS)	8187	7755	7784	7730	7627	7461	7412		Continuing	Continuing

nodal systems. The Common Hardware Software (CHS) project provides common hardware and software to customers to meet their developmental and fielding needs. The (FAADC21); and (5) Combat Service Support Control System (CSSCS) and to other Army Joint and Allied Systems. To provide an overall technically sound, cost effective, the required systems engineering to assure integrated Army tactical command and control, and the utilization of common hardware and software throughout the five ATCCS and operationally responsive approach, the design and development of ATCCS must be accomplished on a total systems basis. The ATCCS Engineering program provides Command and Control System (ATCCS) program which is a component of the Army Battle Command System (ABCS). The ATCCS program provides automation in the Mission Description and Budget Item Justification: The umbrella program to exploit automation technology for the conduct of combat operations is the Army Tactical projects in this program element support the ATCCS programs which for the most part are in the engineering and manufacturing development phases of their acquisition five battlefield functional areas (BFAs) with the following specific systems: (1) Maneuver Control System (MCS); (2) Advanced Field Artillery Tactical Data System (AFATDS); (3) All Source Analysis System (ASAS) for Intelligence/Electronic Warfare; (4) Forward Area Air Defense Command, Control and Intelligence System strategies and, therefore, they are correctly placed in Budget Activity 5.

Page 1 of 8 Pages

Exhibit R-2 (PE 0604818A)

1071

RDT&E BUDGET ITEM JUST	EM JUS	TIFICAL	TION SE	HEET (R	FIFICATION SHEET (R-2 Exhibit)	bit)		рате Ма	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	evelopm	ent	PE NU 060 Har	DE NUMBER AND TITLE O604818A Arm) Hardware & Sof	E NUMBER AND TITLE 0604818A Army Tacti Hardware & Software	tical Con	ımand ar	E NUMBER AND TITLE D604818A Army Tactical Command and Control Hardware & Software	_	эколест DC34
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DC34 Army Tactical C2 Systems (ATCCS) Engineering	10151	10408	8645	8579	8460	9626	9559		Continuing Continuing	Continuing

independently in each BFA, was not disciplined enough to address all connections and needs within the entire spectra of command, control and communications. Therefore, make sound and timely command and control decisions to direct the activities of assigned and supporting units. The umbrella program to exploit automation technology in A. Mission Description and Justification: Project DC34 - Army Tactical C2 Systems (ATCCS) Engineering: The Airland Battle Doctrine requires military leaders to support of this mission is the ATCCS Program a component of the ABCS. The effort to achieve horizontal integration of the ATCCS BFAs, although going on to ensure this horizontal integration effort is complete and automated, a significant management, systems engineering and integration effort is required.

Acquisition Strategy: This project provides the technical and programmatic disciplines required for systems engineering and integration, experimentation, acquisition management, testing, Ada software development, interoperability, fielding, and sustainment to assure an interoperable, as well as, affordable ATCCS. The Program Executive Officer Command, Control and Communications Systems (PEO C3S) has planned an evolutionary approach to fielding the ATCCS as soon as possible.

FY 1995 Accomplishments:

•	1000	Performed functional analysis and update command post analysis to allow Follow-on Test and Evaluation (FOTE)/fielding
•	800	Established an ATCCS data architecture and standardization program

Continued the tech insertion program, e.g., large screen displays, plotters, advanced networking, weather tactical decision aids, and interactive electronic pen technology

Continued Brigade and Below Command and Control (B2C2) applications, including brigade/battalion task force and operation plan/operations order, Produced and tested voice recognition system and Global Positioning System (GPS) prototype Provided ATCCS interoperability engineering and system level engineering support 3000

and refine communications interface to include Integrated Vehicular Information System (IVIS) Conducted/supported system configuration developmental/operational demonstrations 3479

10151 Total

FY 1996 Planned Program:

- Perform functional analysis and update command post analysis to support ABCS and Army Warfighter Experiments (AWE) 1440
 - Extend the ABCS data architecture and standardization program to additional functional areas 800
- Continue the tech insertion program, e.g., advanced communication protocols, advanced networking, tactical decision aids, and distributed databases
 - ABCS/Task Force XXI interoperability engineering and system level engineering support 5257

Project DC34

1072

Page 2 of 8 Pages

Exhibit R-2 (PE 0604818A)







RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-		DATE March 1996	6
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604818A Army Tact Hardware & Software	PE NUMBER AND TITLE 0604818A Army Tactical Command and Control Hardware & Software		PROJECT DC34
 FY 1996 Planned Program: (continued) 450 Incorporate technology of B2C2 applications into embedded applications 1700 Conduct/support system configuration developmental/operational demonstrations in preparation for MCS Initial Operational Test & Evaluation (IOT&E) and other BFA FOTE's 232 SBIR/STTR 29 Revised Economic Assumptions - Not available for execution Total 10408 	applications ional demonstration in	is in preparation for MCS Initial Ope	rational Test & Evalua	uo
 FY 1997 Planned Program: 500 Perform functional analysis and update command post analysis to support ABCS and AWE 1200 Extend the ABCS data architecture and standardization program to additional functional areas including a standard data element dictionary 1200 Extend the ABCS data architecture and standardization program to additional functional areas including a standard data element dictionary 2700 ABCS interoperability engineering and system level engineering support 800 Perform dependency analysis and verification and validation of all BFA fielded software including common and unique applications 800 Perform multi-echelon integration of all command and control applications 1400 Conduct/support system configuration developmental/operational demonstrations in conjunction with MCS IOT&E and other BFA FOTE's Total 8645 	sis to support ABCS gram to additional fu ea Networks (LANs) ering support tof all BFA fielded i of applications tional demonstration	S and AWE Inctional areas including a standard of high efficiency net radio protocols, software including common and units in conjunction with MCS IOT&E and the standard of t	lata element dictionary, and interactive video que applications and other BFA FOTE's	
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) 10151	E <u>Y 1996</u> 10739	<u>FY 1997</u> 8947		
Adjustments to (r. 1.1995) Appropriated Amount (FY 1996) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since	10513 -105	-302		
FY 1996 President's Budget Current President's Budget Submit	10408	8645		
Change Summary Explanation: Funding: FY 96 - (-105) the portion of the program that has been proposed for rescission FY97 - (-302) reduction due to revised inflation rates	posed for rescission			
Project DC34	Page 3 of 8 Pages	Exhibit	Exhibit R-2 (PE 0604818A)	
	1			

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PENUMBER AND TITLE 0604818A Army Tactical Command and Control Hardware & Software	PROJECT DC34
unding Summary: Not Applica		
Finalize Objective ATCCS specification ATCCS System Confidence Demo-6 ATCCS V1 Operational test & Evaluation Participate in Task Force XXI AWE ATCCS System Confidence Demo-7	FY 1996 X X X X X X X X X X X X X	
Project DC34	Page 4 of 8 Pages Exhibit R-2 (F	Exhibit R-2 (PE 0604818A)
	1074	





RDT&E PROGRAM ELEMENT/PRO	PROJECT (SOST BI	REAKDO	COST BREAKDOWN (R-3)	€	DATE March 1996	1996	
вирсет Астіуіту 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604818A Arm) Hardware & Sof	AND TITLE A Army Tact re & Software	Tactical C vare	ommand	रा⊓ाट Army Tactical Command and Control & Software	PROJECT DC34	JЕСТ 34
A. Project Cost Breakdown System Engineering and Integration Support Total	EY 1995 10151 10151	EY 10	FY 1996 10408 10408	FY 1997 8645 8645				
B. Budget Acquisition History and Planning Information								
Organiz								
Contractor or Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity Vehicle Date EAC	Project Office EAC	Total Prior to FY 1995	EY 1995	FY 1996	FY 1997	Budget to Complete		Total Program
Product Development Organizations TRW PWD CSC PWD			6192	1300				1300
TBD PWD MIPR			510	3000	5376	8	CONT	CONT
CECOM			2589	1728	2205			CONT
ga o			8		7	}		
Government Furnished Property: None								
Subtotal Product Development Subtotal Support and Management			10151	10408	8645		CONT	CONT
Subtotal Test and Evaluation Total Project			10151	10408	8645	00	CONT	CONT
Project DC34	Pag	Page 5 of 8 Pages	S		Exhi	Exhibit R-3 (PE 0604818A)	8A)	-

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA	TION SI	FIFICATION SHEET (R-2 Exhibit)	-2 Exhil	bit)		DATE M	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PE NU 060 Har	PE NUMBER AND TITLE 0604818A Army Tacti Hardware & Software	IITLE Irmy Taci Software	PE NUMBER AND TITLE 0604818A Army Tactical Command and Control Hardware & Software	ımand aı	nd Contro		PROJECT D323
COST (in Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D323 Common Hardware Software (CHS)	8187	7755	7784	7730	7627	7461	7412		Continuing	Continuing Continuing

of the art common hardware/software and associated peripherals to meet their developmental and fielding needs. The project also provides software technology support and A. Mission Description and Justification: Project D323 Common Hardware Software (CHS): The CHS program is the cornerstone upon which the Army must build its integrated efforts for tying together the Army Command and Control Systems. The project provides vehicles (contracts) from which customers can acquire/procure state command post internal structures within shelters. The common software supports Army, other services and Joint systems.

improve interoperability and lower life cycle costs by standardizing Battlefield Command and Control (C2) automation through centralized buys of non-developmental items Acquisition Strategy: Common Hardware/Software is the Army's program to equip the ABCS, Corps to foxhole, with common hardware/software. The overall goal is to (NDI), standardized protocol and reusable software. Four hardware versions are available to meet specific needs of each BFA: handheld, portable, transportable and lightweight computer unit.

FY 1995 Accomplishments:

•	1660	1660 Managed the acquisition and delivery of CHS-1/Lightweight Computer Unit (LCU) equipment in support of customer requirements. Performed
		Source Selection Evaluation for CHS-2 Re-award. Tested, accepted, and delivered initial CHS-2 hardware and software
•	1625	1625 Provided Standard Integrated Command Post System (SICPS) Rigid Wall Shelter (RWS), M1068, 5-Ton and Softtop platforms in support of BFA
		requirements
•	4902	Continued execution of the Common Hardware and Software Reuse programs. Supported joint and DoD C2 programs
Total	8187	

FY 1996 Planned Program:

		3
	1755	Total
Revised economic assumption-not available for execution	23	•
SBIR/STTR	139	•
Continue exploring state of the art i echinology insertion in support of ABCS	201	•
	•	
requirements		
Continue testing CHS-2 equipment (User Confidence Test, Reliability, First Article Test). Manage total testing program in support of customer	905	•
Continue execution of Common Hardware and Common Software Reuse programs	3639	•
2589 Continue management of the acquisition and delivery of CHS equipment (LCU/CHS-1/CHS-2) in support of customer requirements	2589	•



Page 6 of 8 Pages

Project D323

Exhibit R-2 (PE 0604818A)





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	-ICATION	SHEET (F	R-2 Exhibit)	DATE March 1996	966
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604818A Army Tact Hardware & Software	STITLE Army Tactical Command and Control & Software	d and Control	PROJECT D323
 FY 1997 Planned Program: 2700 Continue management of the acquisition and delivery of CHS equipment (LCU/CHS-2) in supp 3804 Continue execution of Common Hardware Software Technology and Command Post programs 780 Continue supporting customers testing efforts with CHS equipment 500 Continue exploring state of the art Technology Insertion in support of ABCS Total 7784 	elivery of CHS tware Technol with CHS equi Insertion in su	s equipment (LC) ogy and Comma pment pport of ABCS	and delivery of CHS equipment (LCU/CHS-2) in support of customer requirements re Software Technology and Command Post programs forts with CHS equipment ology Insertion in support of ABCS	requirements	
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995)	EY 1995 8348 8187	FY 1996 8030	FY 1997 8013		
Adjustments to (FT 1995) Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since		7833 -78	-229		
Current President's Budget Submit	8187	7755	7784		
Change Summary Explanation: Funding: FY 96: (-78) the portion of this program that has been proposed for rescission. FY97: (-229) reduction due to revised inflation rates.	proposed for r	escission.			
C. Other Program Funding Summary: Not Applicable					
D. Schedule Profile FY 1995	4	FY 1996	FY 1997	4	
	* *			· ×	
Project D323	Page	Page 7 of 8 Pages		Exhibit R-2 (PE 0604818A)	

RDT&E PROGRAM ELEMENT/PRO	JECT C	OST BE	REAKDO	ROJECT COST BREAKDOWN (R-3)	3)	DATE March 1996	1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	-	PE NUMBER AND TITLE 0604818A Army Tact Hardware & Software	AND TITLE A Army e & Soft	Tactical C	ommand a	ਮਸਮ Army Tactical Command and Control & Software	PROJECT D323	-
A. Project Cost Breakdown Program Management Personnel Contract Engineering Support SBIR/STTR	FY 1995 5215 2972	FY 1996 4595 2998 139	1996 4595 2998 139	EY 1997 4826 2958				
Revised economic assumptions - not available for execution Total	8187	-	23 7755	7784				
B. Budget Acquisition History and Planning Information								
Performing Organizations Contractor or Contract								
Award or Performing Obligation Activity Date EAC	Project Office EAC I	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to <u>Complete</u>	Pro	Total Program
Product Development Organizations Matrix-CECOM MISC Contrs			1405 2972	1287 2998	1323 2958	00	CONT C	CONT
Support and Management Organizations In-House (CHS) Test and Evaluation Organizations: None			3810	3470	3503	00	CONT	CONT
Government Furnished Property: None								
Subtotal Product Development Subtotal Support and Management			8187	7755	7784	00	CONT	CONT
Subtotal Test and Evaluation Total Project			8187	7755	7784	00	CONT	CONT
Project D323	Page	Page 8 of 8 Pages	Sz		Exhi	Exhibit R-3 (PE 0604818A)	18A)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA.	TION S	HEET (F	R-2 Exhi	bit)		DATE M	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	evelopm	nent	PE NI 060	PE NUMBER AND TITLE 0604820A Rada	PE NUMBER AND TITLE 0604820A Radar Development	relopme	1			
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
Total Program Element (PE) Cost	11385	0	0	0	0	0	0		0	141857
DE10 FAAD Ground Based Sensor	5276	0	0	0	0	0	0		0	135748
D2IT FAAD C3I Oper Test	6109	0	0	0	0	0	0		0	6109

Mission Description and Budget Item Justification: The Forward Area Air Defense Ground Based Sensor (FAAD GBS), AN/MPQ-64, consists of a radar-based sensor Very accurate and quick reacting, GBS acquires targets sufficiently forward of the Forward Line of Troops to improve FAAD weapon reaction time and allow engagement GBS contributes to the digital battlefield by automatically detecting, classifying, identifying, and reporting targets (cruise missiles, and unmanned aerial vehicles (UAV's), conditions, in the battlefield environments of dust, smoke, aerosols, and enemy countermeasures. It provides 360 degree azimuth coverage for acquisition tracking. The related to an engineering and manufacturing development program for service use that received approval in 1995 for full-rate production. Budget Activity 5 is therefore rotary wing and fixed wing aircraft). Targets can be hovering to fast moving, as well as, from nap of the earth to the maximum engagement altitude of FAAD weapons. dimensional battlefield X-Band air defense phased-array radar with an instrumented range of 40 km. The GBS is capable of operating day or night, in adverse weather Radiation Missile and Electronic Countermeasures support Army Corps and Divisional Air Defense operations across the full spectrum of conflict. These projects are at optimum ranges. The GBS integrated IFF reduces the potential for fracticide of Army Aviation and Air Force aircraft. Highly mobile and reliable, the GBS Antiwith its prime mover/power, identification friend or foe (IFF), and FAAD Command, Control, and Intelligence (C2I) interfaces. The sensor is an advanced three

Page 1 of 7 Pages

Exhibit R-2 (PE 0604820A)

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA:	TION S	HEET (R	TIFICATION SHEET (R-2 Exhibit)	bit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	evelopm	ent	PE NI 060	PE NUMBER AND TITLE 0604820A Rada	PE NUMBER AND TITLE 0604820A Radar Development	relopme	nt			PROJECT DE10
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DE10 FAAD Ground Based Sensor	5276	0	0	0	0	0	0		0	135748

Vehicle (BSFV) and Man Portable Air Defense System (MANPADS) teams to hostile and unknown aircraft, protect friends from fratricide, and provide air situation data to System (SINCGARS)/Enhanced Position Location Reporting System (EPLRS) or through the FAAD C2I system. The FAAD GBS is the only planned Army air defense force structure, throughout the spectrum of conflict in support of light and heavy forces. The FAAD GBS has the ability to expand its capability to keep current with the radar that has the range and accuracy performance, plus Electronic Counter Measures and Anti-Radiation Missile resistance, to perform this vital mission within current command and control centers. FAAD GBS performs this mission by providing its air picture data directly to support fire units over Single Channel Ground Air Radio A. Mission Description and Budget Item Justification - FAAD Ground Based Sensor: The GBS mission is to alert/cue AVENGER, the Bradley Stinger Fighting evolving threat.

Acquisition Strategy: The FAAD GBS pre production contract was awarded on a competitive best value basis with options for Low Rate Initial Production and Full Rate Production

FY 1995 Accomplishments:

320 Contracted Technical Support 2733 Continued programmatic and technical support 2097 Completed HMMWV Development & Performance Test 126 Conducted Milestone III ASARC
320 2733 2097 126
• • • • !

FY 1996 FY 1997			
FY 1995 5900 5776		0	5276
B. Project Change Summary: Previous President's Budget (FY 1996) Appropriated Value (FY 1995)	Appropriated Amount (FY 1996) Adjustment to FY 1996	Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget	Current President's Budget Submission



Page 2 of 7 Pages

Project DE10

Exhibit R-2 (PE 0604820A)



RDT&E BUDGET ITEM JUS	EM JUST	IFICAT	TIFICATION SHEET (R-2 Exhibit)	EET (R-	2 Exhib)it)		DATE N	March 1996	96
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopme	nt	PE NUN 0604	PE NUMBER AND TITLE 0604820A Rada	тге adar Dev	PE NUMBER AND TITLE 0604820A Radar Development	 			PROJECT DE10
Change Summary Explanation: Funding: FY 95 reprogramming to 0604820A/DL18 for	DA/DL18 for S	SHORTSTOP (-500)	P (-500)							
C. Other Program Funding Summary	FV 1995	FV 1996	FV 1997	FV 1008	FV 1000	FV 2000	FV 2001		To	Total
Other Procurement, Army-2 (SSN WK 5053) Spares (BS 9732)	63680	61882	51226 3614	44715 5370	42154 5572	60530	64476	7 5	continues	continues
D. Schedule Profile	FY 1995	4	FY 2	FY 1996		FY 1997	7 "			
IOTE Complete X* In-Process Review X* Award LRIP Option Milestone III ADM FUE Pre-Production Award 1st FSP Option Award 2nd FSP Option FUE Production	* * *		× .	1	× .					
* Milestone Completed										
Project DE10			Page 3 of 7 Pages	Pages			Exhibi	Exhibit R-2 (PE 0604820A)	0604820A)	

RDT&E PROGRAM ELEMENT/PROJ	ECT C	OST BR	EAKDO	ROJECT COST BREAKDOWN (R-3)	3)	DATE March 4000	
BUDGET ACTIVITY	Ī	PE NUMBER AND TITLE	ND TITLE			Marcil	950 BDO IECT
5 - Engineering and Manufacturing Development		0604820A	A Radar	Development	nent		DE10
A. Project Cost Breakdown Contractor Engineering and Manufacturing Support Test Support Engineering Support Total	EX 1995 320 2097 2859 5276	FY 1996	966	FY 1997			
B. Budget Acquisition History and Planning Information							
Organizations r Contract							
nent Method/Type Award or Performing ing or Funding Obligation Activity	Project Office	Total Prior to				Budget to	Total
Activity Vehicle Date EAC Product Development Organizations	EAC]	FY 1995	FY 1995	FY 1996	FY 1997	Complete	Pro
Feb 92 56836	56836	56516	320				56836
Company MICOM MIPR Other/Misc MIPR		15845	2859				18704
and Manag		, , ,	,				0170
MICOM MIPR Other/Misc MIPR		20125 1707					20125
d Evaluation		· ·					/0/1
OPTEC MIPR Other/Misc		22131 7793	2049				24180
TECOM MIPR		1085	48				1133
Government Furnished Property: None							
Subtotal Product Development		77631	3179	0	0		80810
Subtotal Support and Management		21832	0 0	0	0		21832
Total Project		31009 130472	2097 5276	- 0	0		33106
Project DE10	Dane	A of 7 Dans			Ĺ		
Tiology Delo	rage	rage 4 of / rages			Exhi	Exhibit R-3 (PE 0604820A)	
		1082					





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FEM JUS	TIFICAT	TION S	HEET (R	-2 Exhi	bit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	Jevelopm	ent	PE NI	PE NUMBER AND TITLE 0604820A Rada	PE NUMBER AND TITLE 0604820A Radar Development	/elopme	ıt]	PROJECT D2IT
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
D2IT FAAD C3I Oper Test	6109	0	0	0	0	0	0		0	6109
A. Mission Description and Budget Item Justification: Project D2IT - FAAD C3I Oper Test: Project D2IT finances the direct costs of planning and conducting operational testing and evaluation of the Forward Area Air Defense Command, Control, Communications and Intelligence (FAAD C3I) system by the Operational Test and Evaluation (IOTE) in FY 95 in support of a Milestone III full production decision. (In FY 95 and beyond, funding for operational testing of ACAT I systems is programmed with PE funding development for each system. Future fiscal years will be reprogrammed when system information becomes available.) Operational testing is conducted under conditions, as close as possible, to those encountered in actual combat with typical soldiers trained to employ the system. OPTEC provides Army leadership with an independent test and evaluation of effectiveness and suitability of the system.	cation: Projecter Air Defess an Acquisiti (In FY 95 ar rammed wher the typical sold stem.	ect D2IT - F nse Comman ion Category id beyond, fi i system info iers trained t	AAD C31 C nd, Control, (ACAT) Is unding for o rmation bec o employ th	Oper Test: I Communica system with a perational te comes availal ie system. O	Project D2IT tions and Int a dedicated I sting of AC, ble.) Operat.	finances the elligence (F, nitial Operal AT I systems ional testing des Army le	direct costs AAD C3I) s ional Test a is program is conducte adership wit	s of planning ystem by the nd Evaluatic med with Pf d under conhan indepen	ect D2IT - FAAD C3I Oper Test: Project D2IT finances the direct costs of planning and conducting anse Command, Control, Communications and Intelligence (FAAD C3I) system by the Operational Test ion Category (ACAT) I system with a dedicated Initial Operational Test and Evaluation (IOTE) in FY and beyond, funding for operational testing of ACAT I systems is programmed with PE funding develon system information becomes available.) Operational testing is conducted under conditions, as close iliers trained to employ the system. OPTEC provides Army leadership with an independent test and	ting Test and FY 95 in relopment ose as
Acquisition Strategy: Not applicable										
FY 1995 Accomplishments:	Preparation ational Test AD C31									
B. Project Change Summary:		FY 1995		FY 1996	FY 1997					
Previous President's Budget (FY 1996) Appropriated Value (FY 1995) Adjustments to FY 1995 Appropriated Amount (FY 1996) Adjustment to FY 1996		4951 4847 1262	2 7 1	0 0	0					
Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current President's Budget Submission		6109	6	0	0					
Change Summary Explanation: Funding: FY 95 Reprogramming for FAAD GBS Test		(+1262)								
Project D2IT			Page 5 of 7 Pages	7 Pages			Exhib	Exhibit R-2 (PE 0604820A)	0604820A)	

1083

BUDGET ACTIVITY 5 - Engineering and Manufacturing Developmer C. Other Program Funding Summary C. Other Procurement, Army-2 (SSN WK 5053) Spares (BS 9732) D. Schedule Profile FAAD C31 Test Preparation FAAD C31 Test Preparation Evaluation C31 Test Results X* Example 1 Example 2 Example 3 Example 4 Example 3 Example 4 Example	nent EY 1996 61882 2552 3 4	PE NUN 0604 0604 FY 1997 51226 3614	PE NUMBER AND TITLE	37.					
EX 1995 053) 63680 1 2 3 X* X* X*	** EX	FY 1997 51226 3614	+0704 NA	dar Dev	0604820A Radar Development	ıt			PROJECT D2IT
1t, Army-2 (SSN WK 5053) 63680 file FY 1995 reparation X* Test X* est Results X*	₹	51226 3614						To	Total
FY 199 1 2 X* X* X*			FY 1998 44715 5370	FY 1999 42154 5572	FY 2000 60530 0	FY 2001 64476 0		Compl	Cost continues continues
7 ** ** *X		FY		•	FY 1997				
Milestone III C31 DAB X*		7	n	4	7	<i>დ</i>			
* Milestone Completed									
Project D2IT		Page 6 of 7 Pages	7 Pages			Exhibit	t R-2 (PE	Exhibit R-2 (PE 0604820A)	





B. Budget Acquisition History and Planning Information Per Number And Total B. Budget Acquisition History and Planning Information Performing Organizations Contractor or Contract Government Method Type Award or Performing Project Total Performing or Funding Obligation Activity Office Prior to Activity Product Development Organizations: None-Support and Management Organizations or Funding Organizations None-Test and Fyel Institute Contractors or Contractor or Contract C	20A 199	D2IT D2IT Budget to Total Complete Program
EY 1995 EY 19 285 4910 914 6109 6109 ing Project Total ity Office Prior to AC EAC FY 1995	Y 1996 FY 1997 0 0 0 0 0 0 0 0 0	된
ing Project Total rity Office Prior to AC EAC FY 1995	FV 1005 FV 1006	Pr
Performing Project Total Activity Office Prior to EAC EAC FY 1995	EV 1005 EV 1006	Pr
Support and Management Organizations: None	227	
Oct 94	6109	6109
Government Furnished Property: None		
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	6109 6109	6109
Desired Total		

1085

RDT&E BUDGET ITEM JUST	EM JUS	TIFICA	TION SI	HEET (R	FIFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PE NI	PE NUMBER AND TITLE 0604823A Firefi	PE NUMBER AND TITLE 0604823A Firefinder					PROJECT DL85
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
DL85 FIREFINDER Pre-Planned Product Improvement	0	0	155	2839	13234	25982	28422		Continuing	Continuing Continuing

performance and improve the target throughput to 50 targets per minute in a highly mobile, transportable and survivable system. The FIREFINDER P3I will also be capable Vehicles (UAV), Theater Missile Defense (TMD) systems and others including Theater High Altitude Area Defense (THAAD), Joint Surveillance and Target Attack Radar System (JSTARS), and Advanced Field Artillery Tactical Data System (AFATDS). A new PE/Project beginning in FY97 was established for this Materiel Change (MC). of missile detection at maximum ranges of 150-300KM depending on the target radar cross section. The system will be capable of C-130 Roll on/Roll off transportability for rapid deployment. Crew size will be reduced. This program will also leverage off the AN/TPQ-36(V)8 Electronics Upgrade program to provide a modern shelter and FIREFINDER System which describes an urgent need for a more survivable, longer range and less manpower intensive radar. This upgrade will double the current range radar signal processor. The FIREFINDER P3I will be integrated into the targeting structure by interfacing with such systems as current and projected Unmanned Aerial A. Mission Description and Budget Item Justification: The FIREFINDER Pre-Planned Product Improvement (P3I) program will upgrade the AN/TPQ-37 Artillery Locating Radar by replacing the Antenna Transceiver Group (ATG). This upgrade is in response to the approved Mission Need Statement (MNS) for the Advanced This MC will be in the Engineering and Manufacturing Development phase of the acquisition cycle and is therefore correctly placed in Budget Activity 5.

Acquisition Strategy: A replacement for the Antenna Transceiver Group will be developed as an upgrade to the AN/TPQ-37 on a competitive basis.

FY 1995 Accomplishments: Project Start FY97

FY 1996 Planned Program: Project Start FY97

FY 1997 Planned Program:

- 310 Prepare program and cost documentation to support a Milestone II decision
- 175 Prepare and release draft solicitation for industry comment
 - 66 Issue solicitation to award an EMD contract in FY98
- 185

Project DL85

Page 1 of 3 Pages

Exhibit R-2 (PE 0604823A)





RDT&E BUDGET ITEM JUSTIFICAT	TIFICATION SHEET (R-2 Exhibit)	R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604823A Firef	ο τιτιε Firefinder	PROJECT DL85
B. Project Change Summary Previous President's Budget (FY 1996) Appropriated Amount (FY 1995) Adjustment to FY 1995 Adjustment to FY 1996 Adjustments to Budget Year (FY 1997) since FY 1996 President's Budget Current President's Budget Submit	FY 1996	FY 1997 570 -19 551	
Change Summary Explanation: Funding: FY97 Revised inflation rates (-19)			
C. Other Program Funding Summary EY 1995 Other Procurement, Army 2 SSN: BA5500 FIREFINDER P31	EY 1997 EY 1998	EY 1999 EY 2000 EY 2001 70072	To Total Compl Cost 2 830000 900002
D. Schedule Profile 1 2 3 4 Prepare documentation for Milestone II Obtain Milestone II Approval Prepare draft solicitation	FY 1996 1 2 3	FY 1997 4 1 2 3 4 X X X	4
Issue solicitation for EMD F Y98 award Project DL85	Page 2 of 3 Pages	, Exh	X Exhibit R-2 (PE 0604823A)

1087

RDT&E PROGRAM ELEMENT/PRO.	JECT C	ROJECT COST BREAKDOWN (R-3)	AKDO	WN (R-3		DATE March 1996	96
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604823A Firefinder) TITLE Firefin o	ler		.	PROJECT DL85
 A. Project Cost Breakdown Program Management Support Total 	FY 1995	FY 1996		FY 1997 551 551			
B. Budget Acquisition History and Planning Information							
Performing Organizations Contractor or Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity Vehicle Date EAC	Project Office <u>EAC</u>	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Budget to <u>Complete</u>	Total <u>Program</u>
Froduct Development Organizations						67211	67211
Support and Management Organizations Misc Test and Evaluation Organizations					551	6478	7029
						887/	007/
Government Furnished Property: Not Applicable							
Subtotal Product Development Subtotal Support and Management					551	67211 6478 7288	67211 7029 7288
Subjoint Lest and Evaluation Total Project					551	80977	81528
Project DL85	Pas	Page 3 of 3 Pages			Exh	Exhibit R-3 (PE 0604823A)	





APPENDIX A

RDT&E CONGRESSIONAL DESCRIPTIVE SUMMARIES MAILING LIST

PRINT

USD (Policy), DUSD(R&P), Pentagon, Room 1C469, Washington, DC 20301-2100
OSD, ATTN: DOT&E, Pentagon, Room 3E318, Washington, DC 20310
ASD(RA), Pentagon, Room 3E325, Washington, DC 20310
ASD(C31), Pentagon, Room 3E209, Washington, DC 20310
ASD(ISA), Pentagon, Room 4B938, Washington, DC 20310
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